



# Health and Safety Baseline Risk Assessment

## TASEZ Phase 2 Development: External Bulk Electrical Engineering Services and Infrastructure

<b>Document Type</b>	Health and Safety Baseline Risk Assessment
<b>Document Number:</b>	
<b>Area of Applicability:</b>	TASEZ (Pty) Ltd
<b>Functional Area:</b>	Infrastructure Development
<b>Revision:</b>	01
<b>Effective Date:</b>	August 2025
<b>Next Review Date:</b>	N/A
<b>Disclosure Classification:</b>	Public



### Controlled Disclosure

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

## Official Approval

It is hereby certified that:

- The Risk Assessment was developed by the Infrastructure Division under the guidance of the Executive Team.
- The Risk Assessment will be reviewed as required and updated as necessary, to ensure continuous improvement.
- The implementation of this Risk Assessment will be subjected to both internal and external audit as part of the monitoring process.

Originator: 	Functional Responsibility: 	Functional Responsibility:
<b>Pieter Herbst</b> Health & Safety Agent: Afroteq Advisory (Pty) Ltd.	<b>Patricia Mandleni</b> Health, Safety and Environmental Management Corporate Services Division	<b>Tlangelani Baloyi</b> Project Manager: Infrastructure Development Division
Date:	Date:	Date:

Reviewed By:	Reviewed By:
<b>Rodger Mkhabela</b> Snr. Construction Manager: Infrastructure Development	<b>Andile Sangweni</b> Executive Manager: Infrastructure Development Division
Date:	Date:

---

## Document History

**Table 1: Document History**

Date	Rev. No.	Originator	Status or Reason for Change
August 2025	01	Pieter Herbst	New Document

---

## Table of Contents

<b>OFFICIAL APPROVAL .....</b>	<b>2</b>
<b>DOCUMENT HISTORY .....</b>	<b>3</b>
<b>1. PURPOSE.....</b>	<b>5</b>
<b>2. SCOPE OF DOCUMENT .....</b>	<b>5</b>
<b>3. DEFINITIONS.....</b>	<b>5</b>
<b>4. ABBREVIATIONS .....</b>	<b>10</b>
<b>5. RISK RATING SCALE .....</b>	<b>11</b>
<b>6. HAZARD IDENTIFICATION AND RISK ASSESSMENT .....</b>	<b>12</b>

## Table of Tables

Table 1: Document History .....	3
Table 2: Definitions .....	5
Table 3: Abbreviations .....	10
Table 4: Risk Rating Scale .....	11
Table 5: Hazard Identification and Risk Assessment .....	12

## 1. PURPOSE

The purpose of this baseline risk assessment is to:

- 1.1. Ensure that TASEZ fulfils its duties as client for the construction of Phase 2: External Roads Engineering Services as prescribed in section 5 (1) of the Construction Regulations, 2014.
- 1.2. Ensure that TASEZ fulfils its compliance obligation by eliminating or mitigating risks before resorting to personal protective equipment.
- 1.3. This baseline risk assessment is used as the bases for the Health and Safety Specification for the Phase 2 Development: External Roads Engineering Services.

## 2. SCOPE OF DOCUMENT

This document is applicable to TASEZ Phase 2 Development: External Bulk Electrical Infrastructure Services.

## 3. DEFINITIONS

Table 2: Definitions

Term	Definitions
Angle of Repose	Means the steepest angle of surface at which a mass of loose or fragmented material will remain stationary in a pile on the surface, rather than sliding or crumbling away.
Bulk Mixing Plant	Means machinery, appliances or other similar devices that are assembled in such a manner so as to be able to mix materials in bulk for the purposes of using the mixed product for construction work.
Tasez	TASEZ
Chief Executive Officer	In relation to a body corporate or an enterprise conducted by the State, means the person who is responsible for the overall management and control of the business of such body corporate or enterprise.
Competence	Ability to apply knowledge and skills to achieve intended results.
Competent Person	Means a person who: Has in respect of the work or task to be performed the required knowledge, training and experience and where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2000 (Act No.67 of 2000), those qualifications and that training must be regarded as the required qualifications and training; and (b) Is familiar with the Act and with the applicable regulations made under the Act.
Construction Manager	Means a competent person responsible for the management of the physical construction processes and the coordination, administration, and management of resources on a construction site.
Construction Site	Means a workplace where construction work is being performed.

Term	Definitions
Construction Supervisor	Means a competent person responsible for supervising construction activities on a construction site.
Construction Vehicle	Means a vehicle used as a means of conveyance for transporting person or material, or persons and material, on and off the construction site for the purposes of performing construction work.
Construction Work	Means any work in connection with – <ul style="list-style-type: none"> <li>a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;</li> <li>b) the installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling;</li> <li>c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or</li> <li>d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work.</li> </ul>
Construction Work Permit	<p>A document issued by the provisional director to a Tasez who intends to have construction work carried out.</p> <p><b>Note:</b></p> <p>The Tasez must apply for the Construction Work Permit in writing to the provincial director at least 30 days before that work is to be carried out if the intended construction work will:</p> <ul style="list-style-type: none"> <li>a) Exceed 365 days and will involve more than 3600 person days of construction work; or</li> <li>b) The tender value limit is grade 7, 8 or 9 of the Construction Industry Development Board grading.</li> </ul>
Consultation	Seeking views before making a decision.
Contractor	External organisation providing services to the organisation in accordance with agreed specifications, terms, and conditions.
Competent Person	<p>means a person who -</p> <ul style="list-style-type: none"> <li>a) has in respect of the work or task to be performed the required knowledge, training, and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2008 (Act No.67 of 2008), those qualifications and that training must be regarded as the required qualifications and training; and</li> <li>b) is familiar with the Act and with the applicable regulations made under the Act.</li> </ul>

Term	Definitions
	<p><b>Notes:</b></p> <p>c) An all-inclusive assessment should be on all four components knowledge, training and experience, and where appropriate qualifications exist in relation to the work to be performed.</p> <p>d) Part (b) of the above definition is best reflected through demonstration of understanding of the OSH Act and its various applicable regulations.</p>
Danger	Means anything which may cause injury or damage to persons or damage property.
Demolition Work	Means a method to dismantle, wreck, break, pull down or knock down a structure or part thereof by way of manual labour, machinery, or the use of explosives.
Design	In relation to any structure, includes drawings, calculations, design details and specifications.
Designer	<p>a) A competent person who:</p> <ul style="list-style-type: none"> <li>(i) Prepares a design,</li> <li>(ii) Checks and approves a design; or</li> <li>(iii) Arranges for any person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer); or</li> <li>(iv) Designs temporary work, including its components,</li> </ul> <p>b) An architect or engineer contributing to or having overall responsibility for a design.</p> <p>c) A building services engineer designing details for fixed plant.</p> <p>d) A surveyor specifying articles or drawing up specifications.</p> <p>e) A Contractor carrying out design work as part of a design and building project; or</p> <p>f) An interior designer, shopfitter, or landscape architect.</p>
Employee	Means, subject to the provisions of subsection (2) of the Act, any person who is employed by or works for an employer and who receives or is entitled to receive any remuneration or who works under the direction or supervision of an employer or any other person.
Excavation Work	Means the making of any man-made cavity, trench, pit, or depression formed by cutting, digging, or scooping.
Explosive Actuated Fastening Device	Means a tool that is activated by an explosive charge and that is used for driving bolts, nails, and similar objects for the purpose of providing fixing.
Environmental Incident	Means an unexpected sudden occurrence including a major emission, Fire or explosion leading to serious danger to the public or potentially serious pollution or of detriment to the environment whether immediate or delayed or as defined in section 24 (1) of the Act.

Term	Definitions
Fall Arrest Equipment	Means equipment used to arrest a person in a fall, including personal equipment such as body harness, lanyards, deceleration devices, lifeline, or similar equipment.
Fall Prevention Equipment	Means equipment used to prevent persons from falling from a fall risk position, including personal equipment, a body harness, lanyards, lifelines, or physical equipment such as guardrails, screens, barricades, anchorages, or similar equipment.
Fall Protection Plan	Means a documented plan, which includes and provides for: <ul style="list-style-type: none"> <li>a) All risks relating to working from a fall risk position, considering the nature of work undertaken.</li> <li>b) The procedures and methods to be applied in order to eliminate the risk of falling; and</li> <li>c) A rescue plan and procedures</li> </ul>
Fall Risk	means any potential exposure to falling either from, off or into:
Hazard	A source of or exposure to danger/ source with a potential to cause injury and ill health.
Health and Safety Agent	A competent person appointed in terms of section 5(5) of the Construction Regulations, 2014 and means Afroteq Advisory (Pty) Ltd.
Health and Safety Committee	Means a committee established under section 19 of the Act.
Healthy	Means free from illness or injury attributable to occupational causes.
Health and Safety File	Means a file, or other record containing the information in writing required by this plan.
Health and Safety Plan	Means a site, activity, or project specific documented plan in accordance with the TASEZ's health and safety specification.
Health and Safety Equipment	Means any article or part thereof which is manufactured, provided, or installed in the interest of the health and safety of any person.
Health and Safety Representative	Means a person designated in terms of section 17(1) of the Act.
Health and Safety Plan	Means a site, activity or project specific document prepared by the Tasez pertaining to all health and safety requirements related to construction work;
Material Hoist	Means a hoist used to lower or raise material and equipment, excluding passengers.
Medical Certificate of Fitness	means a certificate contemplated in regulation 7(1)(8) of the Act
Mobile Plant	Means any machinery, appliance or other similar device that is able to move independently and is used for the purpose of performing construction work on a construction site.
National Building Regulations	Means the National Building Regulation made under the National Building Regulations and Building Standards Act, 1977 (Act No. 103 of 1977), and promulgated by Government Notice No. R. 2378 of 30 July 1990, as amended



Term	Definitions
	by Government Notices No's R. 432 of 8 March 1991, R. 919 of 30 July 1999 and R. 547 of 30 May 2008.
Person Day	Means one normal working shift of carrying out construction work by a person on a construction site.
Professional Engineer or Professional Certificated Engineer	means a person holding registration as either a Professional Engineer or Professional Certificated Engineer in terms of the Engineering Professions Act, 2000 (Act No. 46 of 2000).
Professional Technologist	Means a person holding registration as a Professional Engineering Technologist in terms of the Engineering Profession Act, 2000;
Provincial Director	Means the provincial director as defined in regulation 1 of the General Administrative Regulations, 2003.
Scaffold	Means a temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both.
Shoring	Means a system used to support the sides of an excavation and which is intended to prevent the cave-in or the collapse of the sides of an excavation.
Structure	a) Any structure, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewerage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure; b) Any false work, scaffold or other structure designed or used to provide support or means of access during construction work; or c) Any fixed plant in respect of construction work which includes installation, commissioning, decommissioning, or dismantling and where any construction work involves a risk of a person falling.
Suspended Platform	Means a working platform suspended from supports by means of one or more separate ropes from each support.
Temporary Works	Means any false work, formwork, support work, scaffolding, shoring or other temporary structure designed to provide support or means of access during construction work.
Notification Of Construction Work	A notification which must be made by a contractor who intends to carry out any construction work at least 7 days before that work is to be carried out to notify the provincial director in writing in a form similar to Annexure 2 as provided in the Construction Regulations, 2014 if the intended construction work will - a) include excavation work; b) include working at a height where there is risk of falling; c) include the demolition of a structure; or

Term	Definitions
	d) include the use of explosives to perform construction work.
Plant	Includes structures, buildings, fixtures, fittings, implements, equipment, tools, and appliances, and also anything which is used for any purpose in connection with such plant.
Risk	Means the probability that injury or damage will occur.
Process	Set of interrelated or interacting activities which transforms inputs into outputs.
Safe	Means free from any hazard.
Structure	Means: a) any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure; b) any falsework, scaffold or other structure designed or used to provide support or means of access during construction work; or c) any fixed plant in respect of construction work which includes installation, commissioning, decommissioning, or dismantling and where any construction work involves a risk of a person falling.
The Act	Means the Occupational Health and Safety Act, 1993
The Regulations	Means the Construction Regulations, 2014
Tunnelling	Means the construction of any tunnel beneath the natural surface of the earth for a purpose other than the searching for or winning of a mineral.

#### 4. ABBREVIATIONS

Table 3: Abbreviations

Abbreviations	Description
DOEL	Department of Employment and Labour
DSTIs	Daily Safety Task Instructions
F	Frequency
MVA	Motor Vehicle Accident
P	Probability
PPE	Personal Protective Equipment
S	Severity

## 5. RISK RATING SCALE

Table 4: Risk Rating Scale

PROBABILITY SCALE		FREQUENCY SCALE		SEVERITY SCALE		
Has happened before	(3)	Frequent occurrence / daily	(3)	<b>Disaster</b>	(Many fatalities / > 10 Million damage)	(8)
Quite possible	(2)	It has happened / monthly	(2)	<b>Critical</b>	(Fatal injury / > 1 Million damage)	(7)
Unusual but possible	(1)	Could occur / yearly	(1)	<b>Very Serious</b>	(Reportable Accident / > R100, 000 damage)	(6)
<b>RISK RANKING / PRIORITY FACTOR</b>				<b>Serious</b>	(Disability Injury (LTI) / > R100, 000 damage)	(5)
<b>If score is 61 to 72</b>	<b>AA</b>	Potentially Catastrophic	Eliminate, avoid, implement specific action plans / procedures to manage & monitor	<b>Important</b>	(Non-disabling Injury / > R1, 000 damage)	(4)
<b>If score is 49 to 60</b>	<b>A</b>	Potentially Major	Proactively manage	<b>Of Concern</b>	(Minor injury / > R100 damage)	(3)
<b>If score is 37 to 48</b>	<b>B</b>	Potentially Serious	Actively manage			
<b>If score is 01 to 36</b>	<b>C</b>	Potentially Minor	Monitor & manage as appropriate			

## 6. HAZARD IDENTIFICATION AND RISK ASSESSMENT

Table 5: Hazard Identification and Risk Assessment

No	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
1.	File Approval as per OHS Requirements and Client Specification	<ul style="list-style-type: none"> <li>No valid registration with COID.</li> <li>Expired Documentation (e.g. competencies, equipment load test, medicals, work permits)</li> <li>Documentation not available or approved as per required Client Spec and OHS act.</li> <li>Unqualified / unregistered contractors on project</li> <li>Client tender / contract protocols by-passed</li> <li>Unauthorised commencement of activities</li> </ul>	<ul style="list-style-type: none"> <li>Work commencing prior to file being available and approved.</li> <li>Exposures to legal liability</li> <li>Result in Legal Claims</li> <li>Compensation</li> <li>Damages to underground services</li> <li>Disruption of services</li> <li>Disrupting/ damaging infrastructure</li> </ul>	1	2	3	5	C	<ul style="list-style-type: none"> <li>Supervisor to ensure necessary documentation, approval/permission is obtained and verified</li> <li>Approval / Permission to be obtained from CLIENT prior to commencing work</li> <li>Necessary H&amp;S legal compliance documents signed by both parties</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
2.	Legal Appointments and Competency	<ul style="list-style-type: none"> <li>Employees appointed not in possession of required or valid competencies as per Client Spec and OHS Act.</li> <li>Appointment not as per legal requirements.</li> <li>Lack of experience for appointed position.</li> </ul>	<ul style="list-style-type: none"> <li>Legal Liability</li> <li>Prosecution</li> <li>Judgement Errors</li> </ul>	2	3	3	18	C	<ul style="list-style-type: none"> <li>No Work Commencement until approval has been signed off</li> <li>Client Health and Safety Specification.</li> <li>Baseline Risk Assessment</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
3.	Required legal documentation as per OHS act	<ul style="list-style-type: none"> <li>Documentation not Site Specific.</li> <li>Policies and Procedure not in place and approved.</li> <li>Employees not trained in Policies and Procedures and legal requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Legal Liability</li> <li>Prosecution</li> <li>Judgement Errors</li> </ul>	3	3	4	36	C	<ul style="list-style-type: none"> <li>No Work Commencement until documentation approval has been signed off.</li> <li>Training Needs analysis to be conducted by Contractor.</li> <li>Communication of required documentation</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
4.	Risk Identification	<ul style="list-style-type: none"> <li>Method of works not site specific</li> <li>Risk identification not in place or conducted</li> <li>Risk identification not site specific</li> <li>Risk controls not sufficient</li> <li>Risk Assessor not competent</li> <li>Continues Risk evaluation not conducted</li> </ul>	<ul style="list-style-type: none"> <li>Failure to identify hazards and risks effectively to mitigate leading to serious incidents.</li> </ul>	2	3	5	30	C	<ul style="list-style-type: none"> <li>No Work Commencement until risk assessments approval have been signed off.</li> <li>Issue based Risk Assessment to cover all identified construction work activities.</li> <li>Appropriate Method Statement of Tasks</li> <li>Site conditions to be adequately evaluated and covered in risk assessments to mitigate risks.</li> </ul>	Responsible Section 16.2 / CR 8.7 / CR 9
5.	Induction & Medical certificate of fitness	<ul style="list-style-type: none"> <li>Employees entering site not being inducted.</li> <li>Visitors entering site not being inducted / signing visitors' induction form.</li> <li>Induction being conducted on employees without them being in possession of a valid medical certificate of fitness in the form of an Annexure 3.</li> </ul>	<ul style="list-style-type: none"> <li>Unfit to work employee resulting in harm / injury</li> <li>Unauthorised access of visitors - serious incidents – injuries.</li> <li>Legal Liability</li> </ul>	3	3	4	36	C	<ul style="list-style-type: none"> <li>The medical must be conducted by a registered Occupational Health Practitioner.</li> <li>No employee not inducted or in possession of a medical certificate to be deployed.</li> <li>Supervisors to ensure compliance.</li> <li>No visitor to be allowed on site unaccompanied.</li> </ul>	Responsible Section 16.2 / CR 8.7
6.	Construction Work Permit / Notification of Construction	<ul style="list-style-type: none"> <li>Not submitting documents to the DOEL as required by legal requirement.</li> <li>Documents not containing the correct information as required by the DOEL</li> <li>Documents not submitted in the prescribed timeframe.</li> </ul>	<ul style="list-style-type: none"> <li>Work stoppage by DOEL.</li> <li>Financial implications.</li> <li>Prosecution.</li> </ul>	2	2	5	30	C	<ul style="list-style-type: none"> <li>Project works not commencing until documentation as required is provided to the DOL in the prescribed manner containing correct site works information.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
7.	Client and Designer Duties	<ul style="list-style-type: none"> <li>Client not following requirements as stipulated in the regulations.</li> <li>Designers not appointed in writing and not made aware of their duties.</li> <li>Designers not following their legal duties throughout the project</li> </ul>	<ul style="list-style-type: none"> <li>Legal Liability</li> <li>Prosecution</li> <li>Work stoppage</li> </ul>	3	2	6	36	C	<ul style="list-style-type: none"> <li>Client to follow legal requirements as stipulated in the regulations before and during the construction process.</li> <li>Designers on the project to sign agreement in acknowledgement of their duties on the project.</li> <li>Designers to conduct the required inspections and review the required documentation as stipulated in the regulations.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / CR 6
8.	Temporary hoarding to separate public and construction work. Existing boundary fences.	<ul style="list-style-type: none"> <li>Unauthorised access.</li> <li>Uncontrolled movement of vehicular / pedestrian traffic.</li> </ul>	<ul style="list-style-type: none"> <li>When digging for fence poles, services can be damaged</li> <li>When posts get knocked in it can damage services.</li> <li>MVA</li> <li>Injuries – i.e. Cuts / Lacerations / Bruises / Fractures / Foreign / Objects / Sprains</li> </ul>	2	2	6	24	C	<ul style="list-style-type: none"> <li>Competent persons to perform installation.</li> <li>The erector must follow the specific planned position for installation / erecting as required.</li> <li>Supervisor to monitor work activities</li> <li>The site must be adequately hoarded / fenced.</li> <li>No unauthorised entry permitted.</li> <li>Prescribed signage to be posted.</li> <li>Fence installation areas to be demarcated with netting when posts and fence is being installed.</li> <li>Movable hoarding must be secured with weights at the base of the hoarding to prevent displacement.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
9.	Access control and Security.	<ul style="list-style-type: none"> <li>No security in place at entrances to construction site.</li> <li>No security presence at strategic locations on site construction work area.</li> <li>Access control measures not in place at access gates.</li> <li>Accessing site from unsafe areas.</li> </ul>	<ul style="list-style-type: none"> <li>Unauthorized entry to site.</li> <li>Theft of materials and equipment.</li> <li>Uncontrolled movement of vehicles and pedestrian traffic.</li> <li>MVA</li> </ul>	2	3	6	36	C	<ul style="list-style-type: none"> <li>The principal contractor must appoint full time security personnel to control the access on and to site at all times.</li> <li>Dedicated access control sign books to be available for visitor sign in.</li> <li>Dedicated vehicular and pedestrian routes on site.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
		<ul style="list-style-type: none"> <li>Unauthorized entry onto site due to lack of access control measures</li> </ul>	<ul style="list-style-type: none"> <li>Injuries – i.e. Cuts / Lacerations / Bruises / Fractures / Foreign / Objects / Sprains</li> </ul>						<ul style="list-style-type: none"> <li>To prevent unauthorized entry into the construction area, beyond the area, which was fenced off as per the Engineers drawing, from the gate which the contractor controls up to the furthest point of the hoarded area.</li> </ul>	
10.	Site Clearing <ul style="list-style-type: none"> <li>Mobile plant, tools &amp; equipment</li> <li>Traffic &amp; pedestrian control</li> <li>Brush /soil removal &amp; staging</li> <li>Stock pile / dispose of excess / interim topsoil.</li> </ul>	<ul style="list-style-type: none"> <li>Use of unsafe mobile plant or machinery.</li> <li>Employees being struck by moving plant working in the area.</li> <li>No dust control measures in place.</li> <li>Several construction vehicles and mobile plant operating in confined space area.</li> <li>Construction vehicle and mobile plants reverse alarms / hooters not working.</li> <li>Unsafe stockpiles of soil or other materials on site.</li> <li>Unsafe / uncontrolled interface between persons and mobile plant on site.</li> <li>Unlicensed operator</li> <li>Defective equipment</li> <li>Lack of serviced equipment</li> <li>Speeding</li> <li>Vehicular road movement</li> <li>Unsafe mobile plant &amp; equipment</li> <li>Unauthorised entry</li> <li>Fail to demarcate work areas effective</li> <li>Failure to place relevant symbolic signage / notice</li> <li>Ineffective or inefficient supervision</li> <li>Lack of proper traffic &amp; pedestrian control measures</li> </ul>	<ul style="list-style-type: none"> <li>Damage to neighboring properties.</li> <li>MVA</li> <li>Injuries – i.e. Cuts / Lacerations / Bruises / Fractures / Foreign / Objects / Sprains</li> <li>Damage of site infrastructure due to site clearing operations.</li> <li>Unauthorised location / placement of stockpile</li> <li>Incomplete / un-approved H&amp;S File on site.</li> <li>Illegal dumping /placing of waste/excess topsoil material</li> <li>Failure to conduct The Site-Specific Health and Safety Induction for all employees working on the specific Site.</li> <li>\Material/Equipment Fatality</li> <li>Plant, equipment damage</li> <li>Work stoppage Damages to underground services</li> <li>Disruption of services</li> <li>Disrupting/ damaging infrastructure</li> </ul>	2	3	7	42	B	<ul style="list-style-type: none"> <li>All services on site must be pointed out by the client to the principal contractor.</li> <li>Safe distance from site fence and services must be established by contractor and must be maintained and marked.</li> <li>Dust control measures must be implemented by the principal contractor</li> <li>All construction vehicles on site must be inspected when delivered to site or used daily to ensure adherence to the legal requirements.</li> <li>Dedicated vehicular and pedestrian routes on site.</li> <li>Road signage to position at strategic locations.</li> <li>Competent persons to perform site clearing activities</li> <li>Supervisor to monitor activities.</li> <li>Mobile plant &amp; construction vehicle operator's medical certificate.</li> <li>Mobile plant &amp; construction vehicle operator's licences valid</li> <li>Pre-use inspection of vehicles daily.</li> <li>Conduct Site Specific Safety, Health &amp; Environmental Induction training for all employees.</li> <li>Only trained &amp; competent persons to operate plant and equipment</li> <li>Employees to receive training in snake bite prevent measures</li> <li>Works supervisor to monitor and manage work progress.</li> <li>Unauthorised persons not allowed within the work area, "No Unauthorised Entry Symbolic Signs" Positioned.</li> <li>DSTI's implemented, to consider other contractors in vicinity and potential damage to materials / equipment.</li> <li>DSTI's to include hazards of moving equipment &amp; vehicles.</li> <li>Legal documentation to be at hand pertaining to mobile plant &amp; equipment.</li> <li>Mobile plant to be properly maintained and fully serviceable.</li> <li>Flagman to be posted at strategic road crossovers</li> <li>Mobile plant &amp; equipment to be staged securely</li> <li>No hydraulic or any fluid leakages, repairs to be affected immediately</li> <li>When stationary, drip trays to lay-down</li> <li>Any mobile plant / equipment staged at work site after hours, to be secured safely, keys removed, batteries removed, and wheels chocked</li> <li>600ml of liquid intake every hour.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
									<ul style="list-style-type: none"> <li>Mobile plant &amp; equipment inspected as per register - COF</li> <li>Medical Certificate</li> <li>Daily Inspection record</li> <li>PPE issued and inspection registers to be up to date.</li> <li>Obtain authorization pertaining to location of stockpile of surplus material.</li> <li>Supervision to ensure the project H&amp;S file is submitted to the Client for assessment &amp; approval, work may not commence prior to written approval from the client /client's agent.</li> <li>Maintain records of employees receiving Site Specific Health and Safety Induction training- Induction Training Register – signed and dated</li> <li>Correct PPE issued &amp; worn:</li> <li>Safety boots</li> <li>Leather glove</li> <li>Eye protection-sun</li> </ul>	

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
									<ul style="list-style-type: none"> <li>Head protection – sun</li> <li>Overalls</li> <li>Reflective vest</li> </ul>	
11	Design	<ul style="list-style-type: none"> <li>Designer not taking 2014 Construction regulation into account during stages 2,3 and 4</li> <li>Designs does not include safety aspects for safety during constructability, operability, and maintainability</li> <li>Designs does not conform to the Design Specification as per the Engineering Scope of Work, checked and signed off by all relevant designers and engineer.</li> <li>Designs does not make provision for anchor points for working at height hook-up</li> <li>Design has made inadequate provision for lightning protection</li> </ul>	<ul style="list-style-type: none"> <li>Serious injury/Fatal.</li> <li>Property damage</li> <li>Financial loss</li> <li>Environmental impact</li> <li>Prosecution</li> <li>Damage to companies' image</li> </ul>	3	3	9	81	B	<ul style="list-style-type: none"> <li>Designers are legally required to conform with all legislation and specifically the requirements of section 6 of the 2014 construction regulations.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
12	Surveys	All relevant surveys not completed Recommendations of surveys not adhered to in planning and designs	<ul style="list-style-type: none"> <li>Serious injury/Fatal.</li> <li>Property damage.</li> <li>Financial loss</li> <li>Environmental impact</li> <li>Prosecution</li> <li>Damage to companies' image</li> </ul>	3	3	9	81	B	<ul style="list-style-type: none"> <li>The client must have relevant surveys done including, Geotech, ground water, environmental impact, traffic, existing services. Information in the reports must be used by designers in their designs and information that could affect health and safety in constructability, maintainability and operability must be reported to the client</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
13	work permits, licences, way-leaves, and authorisations	<ul style="list-style-type: none"> <li>Legal noncompliance Unknown services</li> </ul>	<ul style="list-style-type: none"> <li>Serious injury/Fatal.</li> <li>Property damage</li> <li>Financial loss</li> <li>Environmental impact</li> <li>Prosecution</li> <li>Damage to companies' image</li> </ul>	3	3	9	81	B	<ul style="list-style-type: none"> <li>The client and the principal contractor need to ensure that all relevant work permits, licences, way-leaves, and authorisations are in place before work commences</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
14	Procurement and cost management	<ul style="list-style-type: none"> <li>Inadequate funds to complete project safe, expected quality and on time</li> <li>Delays in appointment of contractor, designers, and specialists</li> <li>Insufficient technical and safety information in tender document</li> <li>Delay in start date will cause pressure on contractor to make deadline</li> <li>Appointment of contractor based on cost and not on competence and health and safety performance</li> </ul>	<ul style="list-style-type: none"> <li>Serious injury/Fatal.</li> <li>Property damage</li> <li>Financial loss</li> <li>Environmental impact</li> <li>Prosecution</li> <li>Damage to companies' image</li> </ul>	3	3	9	81	B	<ul style="list-style-type: none"> <li>The client project cost management must ensure that the project budget includes all costs including health and safety and procurement must ensure that the principal contractor has provided adequate funds to ensure that the project can completed safe, on time and to the quality expected by the client</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
15	Time constraints	<ul style="list-style-type: none"> <li>Client has not allowed for adequate time to complete project to standard and on time</li> </ul>	<ul style="list-style-type: none"> <li>Serious injury/Fatal.</li> <li>Property damage</li> <li>Financial loss</li> <li>Environmental impact</li> <li>Prosecution</li> <li>Damage to companies' image</li> </ul>	3	3	9	81	B	<ul style="list-style-type: none"> <li>It is important to ensure that time for the construction is realistic and takes all possible aspects that can cause delays into account</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
16	Site establishment <ul style="list-style-type: none"> <li>Transporting containers / temporary offices to site.</li> <li>Offloading containers / offices.</li> <li>Container / offices placement.</li> <li>Demobilisation</li> <li>Cleaning</li> <li>Locate administration &amp; office facilities</li> <li>Provide utility &amp; hygiene facilities</li> <li>Establish lay down area</li> <li>Establish material, equipment, tools &amp; similar storage facilities</li> <li>Establish mobile plant and equipment routes &amp; staging area</li> <li>Secure site area with barricading / hoarding / fencing</li> <li>Establish waste / rubble / excess material removal controls</li> </ul>	<ul style="list-style-type: none"> <li>Safety signs and notice boards not placed close to entrance of main gate.</li> <li>Lay down areas not off sufficient size.</li> <li>Inadequate Security surrounding Site Camp / materials &amp; equipment</li> <li>Ineffective or inefficient planning of Site camp layout</li> <li>No toilets provided as per requirements.</li> <li>Not informing employees and public what the site rules are.</li> <li>Incorrect placement / position of containers / site offices.</li> <li>Unlicensed operators</li> <li>Defective equipment</li> <li>Lack of serviced equipment</li> <li>Vehicular road movement</li> <li>Unsafe mobile plant &amp; equipment</li> <li>Unauthorised entry</li> <li>Fail to demarcate work areas effectively</li> <li>Failure to place relevant symbolic signage / notice</li> <li>Ineffective or inefficient supervision / security</li> <li>Lack of proper traffic &amp; pedestrian control measures</li> <li>Moving plant equipment &amp; vehicles</li> <li>Ergonomic Factors</li> <li>Restricted space</li> <li>Incorrect handling</li> <li>Incorrect Posture</li> </ul>	<ul style="list-style-type: none"> <li>Damaged / loose wires exposed at site offices.</li> <li>Material handling can cause crush injuries and falling objects.</li> <li>Material/Equipment Damage</li> <li>MVA</li> <li>Fatality</li> <li>Multiple injuries</li> <li>Result in Legal Claims</li> <li>Compensation</li> <li>Plant, equipment damage</li> <li>Work stoppage</li> <li>Tripping &amp; falling</li> <li>Snake &amp; spider bite</li> <li>Heat exhaustion</li> <li>Theft of materials / Equipment</li> <li>Damages to underground services</li> <li>Disruption of services</li> <li>Disrupting/ damaging infrastructure</li> </ul>	3	2	7	42	B	<ul style="list-style-type: none"> <li>Acquisition of latest revision of As-Built information pertaining to the project and existing services.</li> <li>Contractor to verify the position of all services by means of hand exploratory holes/ excavations prior to commencement of activities in the area of construction.</li> <li>Employees to have undergone the requisite HSE induction training</li> <li>Employees to receive training in snake bite prevent measures</li> <li>Works supervisor to monitor and manage work progress</li> <li>CHSO to monitor and manage all SHE issues &amp; progress</li> <li>Prepare an effective and well-organized Site Camp Layout plan, establishing organisational infrastructure necessary for the movement of personnel, equipment, supplies and incidentals to the project site</li> <li>Integration of on-site and off-site vehicular and pedestrian access routes must be considered</li> <li>Vehicular access routes must be adequate to provide for the type of traffic that will have to be accommodated</li> <li>No work activities are to commence unless supervisor is in possession of written contract</li> <li>Contractor to be appointed as per CR 5(1) (k)</li> <li>Section 37 (2) H&amp;S Mandatary Agreement</li> <li>Mandatary signage must be installed at the gates leading to site.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7



NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
	<ul style="list-style-type: none"> <li>Establish site remediation / reinstatement protocols</li> <li>Establish security services</li> <li>Establish traffic controls</li> <li>Establish pedestrian controls</li> </ul>								<ul style="list-style-type: none"> <li>Toilet facilities must be installed and in working condition when employees start work on site.</li> <li>Installation of offices must be done under the supervision of a competent person.</li> </ul>	
17	Fencing of laydown area	<ul style="list-style-type: none"> <li>Access to laydown is accessible by unauthorised persons</li> <li>Laydown area too small for volume of construction material</li> </ul>	<ul style="list-style-type: none"> <li>Muscular skeletal injuries. Back injuries</li> <li>Cuts, bruises, and fractures Injury to employees</li> <li>Damage to property</li> </ul>	3	2	6	36	C	<ul style="list-style-type: none"> <li>Planning of material deliveries to prevent this situation</li> <li>Prior arrangement and planning with principal contractor construction manager</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
18	Preparing laydown area for office, store, ablution	<ul style="list-style-type: none"> <li>Exposure to traffic</li> <li>Lifting/sling of containers in position on bases with a crane</li> </ul>	<ul style="list-style-type: none"> <li>Cuts, bruises, and fractures Injury to employees</li> <li>Damage to property</li> </ul>	3	1	3	9	C	<ul style="list-style-type: none"> <li>Pre-planning of site lay-out and activities</li> <li>Ensure that crane and lifting operations are planned</li> <li>equipment certified, operators competent, risk assessment completed and work permit is in place</li> <li>Certified electrician and plumber to connect services and COC issued</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
19	Employees facilities	<ul style="list-style-type: none"> <li>No shaded eating area Inadequate toilet facilities for both sexes and inadequate signage posted.</li> <li>Toilets not serviced on regular basis. No or inadequate potable water</li> </ul>	<ul style="list-style-type: none"> <li>Contamination of food through exposure to site dust, rain, and elements.</li> <li>In-hygienic condition which could also lead to disease.</li> </ul>	3	1	3	9	C	<ul style="list-style-type: none"> <li>Suitable shaded eating area which protects the employees from the elements must be provided.</li> <li>Principal contractor must ensure that there are adequate male and female toilets available onsite as per construction regulation 2014.</li> <li>Facilities for both sexes must have signs showing male and female.</li> <li>Facilities to be kept clean and hygienic and toilet paper provided.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
20	Fencing of construction and laydown area	<ul style="list-style-type: none"> <li>Interface between existing shop and construction</li> <li>Unsafe use of PPE.</li> <li>Obstacles on ground may cause tripping and falling material may dislodge causing employee to fall down</li> <li>Incompetent employees working with portable electrical equipment</li> <li>Unsafe electrical tools</li> <li>Unsafe extension cords</li> <li>Incompetent workers</li> <li>Hoarding not stable and secure</li> <li>No work plan, risk assessment and work permit</li> </ul>	<ul style="list-style-type: none"> <li>Loss time/severe injuries</li> <li>Property damage</li> <li>Loss in production</li> <li>Fatalities</li> <li>Electrocution</li> </ul>	3	3	9	81	B	<ul style="list-style-type: none"> <li>Fence constructed of netting required on section of fence</li> <li>All employees to be competent on safe use of PPE.</li> <li>Good housekeeping</li> <li>All equipment and tools to be checked daily</li> <li>Provide safe access at all times</li> <li>All workers to be competent for the task at hand</li> <li>Only competent workers to use electrical tools</li> <li>Ensure that Hoarding posts are secure in the ground</li> <li>Work plan, risk assessment and work permit required</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
21	Delivery, loading and off-loading of construction material	<ul style="list-style-type: none"> <li>Vehicles entering / leaving site Small manoeuvre space Inadequate warning systems in place when reversing and offloading Collision with equipment Spillages from materials</li> <li>Workers/machine/plant in same working area Lifting &amp; lowering operations Failure of lifting equipment</li> </ul>	<ul style="list-style-type: none"> <li>Traffic disruption, injuries to people, damage to vehicles &amp; property</li> <li>Environmental damage, Waste generation Possible fatality Falling materialCrushing by materialsToppling crane</li> </ul>	3	2	15	90	B	<ul style="list-style-type: none"> <li>Deliveries to be co-ordinated with site management</li> <li>Planning of storage areas Vehicles to have reverse hooters / spotter to control reversing Drivers inducted on entering, speed limits displayed Induction training and safety talks, warning lights and acoustic warnings fitted to plant Check test certificate and examination certificateCheck certificates for lifting equipment (chains, slings, shackles, etc) Ensure lifting gear is rated to carry load (SWL)Ensure materials being lifted are properly packagedBe aware that there should be a minimum clearance of 600mm between any slewing parts of a crane and any fixed installation to prevent being trappedAccess to the work area during lifting operations is to be restricted to those involved with and competent in the work in hand. Only competent banksmen to be usedThe crane driver and the banksmen are to ensure that the signals given are clearly understood Supervisor to plan proceduresGood housekeeping practices should be implemented</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
22	Manual and mechanical handling	<ul style="list-style-type: none"> <li>Employees not instructed on lifting and manual handling SWP</li> <li>Employees not obeying safety rules</li> <li>Improper lifting techniques.</li> <li>worker falling/tripping.</li> <li>Fall of material being carried</li> <li>Incorrect equipment/plant used for lifting</li> <li>Struck by falling load</li> <li>No risk assessment and permit available</li> </ul>	<ul style="list-style-type: none"> <li>Cuts, bruises, and fractures Injury to employees</li> <li>Damage to property</li> </ul>	3	2	6	36	C	<ul style="list-style-type: none"> <li>Personnel should be aware of safe manual handling techniques</li> <li>Personnel to wear Personal Protective Equipment when carrying items, e.g.: safety footwear and gloves</li> <li>Ensure good housekeeping against tripping/fall hazards</li> <li>Worker to get assistance if load too heavy-</li> <li>Team lift where necessary</li> <li>Utilise mechanical lifting and carrying aids where possible</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
									<ul style="list-style-type: none"> <li>Personnel to ensure item being carried, moved is properly bonded or will not be liable to break apart whilst being manually handled assessment and work permit required</li> </ul>	
23	Stacking and storage	<ul style="list-style-type: none"> <li>Materials and equipment being stacked incorrectNo storage and stacking planCollapses of stacked materialNot adequate storage space in designated laydown area</li> </ul>	<ul style="list-style-type: none"> <li>Injury to peopleDamage to plant, vehicles, and equipmentDamage to propertyObstruction of emergency escape routes</li> </ul>	3	2	6	36	C	<ul style="list-style-type: none"> <li>Supervisors and employees to adhere to the safe stacking principles. Inspection registers to be completed as required. Stacking only in the designated areas Stacking and storage plan required from principal contractor Planning of material deliveries to prevent this situation</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
24	Compliance with national, international, provincial, local legislation and laws, industry and any other applicable standards, rules, regulations, licence, and requirements	<ul style="list-style-type: none"> <li>The client, appointed designers, consultants, specialists, principal agent, construction health and safety agent, safety manager and officers, principal contractor, and employees in non-compliance with these requirements Non-compliance not reported and recorded No action taken to rectify non-compliance Non-compliance not closed out</li> </ul>	<ul style="list-style-type: none"> <li>Multiple injuries, fatalities, damage to property, environmental damage, catastrophic result Financial loss/claims Prosecution Damage to public image</li> </ul>	3	6	18	326	AA	<ul style="list-style-type: none"> <li>All project participants must adhere to at least the following, but not limited to: <ul style="list-style-type: none"> <li>Applicable National Legislation, international, provincial, local legislation, and laws Regulations (laws, decrees...)</li> <li>Ensure that the latest version of the requirements are used</li> </ul> </li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
25	<ul style="list-style-type: none"> <li>Working onsite without hoarding</li> </ul>	<ul style="list-style-type: none"> <li>Public exposure to construction activities, excavation, noise, dust</li> </ul>	<ul style="list-style-type: none"> <li>Vehicle collides with person resulting in fatality Injuries to persons Damage to property</li> </ul>	2	3	6	36	C	<ul style="list-style-type: none"> <li>Employees to be trained in manual handling techniques</li> <li>Training curriculum to include ergonomics</li> <li>Only trained &amp; competent persons to operate</li> <li>Employees to be trained in Stacking &amp; Storage methods/ procedures</li> <li>Works, Stacking and Storage supervisor to monitor and manage work progress</li> <li>Ensure firm and level ground</li> <li>Barricade off-loading area</li> <li>Vehicle &amp; lifting equipment operator licensed / competent</li> <li>Driver / operator medical available</li> <li>Guide rope to be attached on load to guide &amp; prevent swaying</li> <li>Only lifting equipment in good order and state of repair</li> <li>Not to exceed SWL</li> <li>DSTI to include hazards of lifting equipment</li> <li>DSTI to include ergonomic factors</li> <li>Vehicle not to exceed site speed limit</li> <li>Drip trays to position during off loading</li> <li>Lifting equipment to be maintained as per manufacturer instructions</li> <li>In the event of employee being bitten by a snake, the driver to evacuate the employee to nearest hospital speedily</li> <li>Vehicle / lifting equipment COF available</li> <li>Daily inspection registers available</li> <li>Appointment of competent Stacking and Storage Supervisor</li> <li>Correct PPE issued &amp; worn: <ul style="list-style-type: none"> <li>Safety boots</li> <li>Leather glove</li> <li>Eye protection-sun</li> <li>Head protection – sun</li> <li>Overalls</li> <li>Reflective vest</li> </ul> </li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
26	Installation of Hoarding.	<ul style="list-style-type: none"> <li>Unsafe use of PPE. Obstacles on ground may cause tripping and falling Material may dislodge causing employee to fallUntrained employees working with portable electrical equipment Unsafe electrical tools Unsafe extension cords Incompetent workersHoarding not stable and secure</li> </ul>	<ul style="list-style-type: none"> <li>Loss time injuries Severe injuries Property damage Loss in production Fatalities Electrocuton</li> </ul>	2	2	4	16	C	<ul style="list-style-type: none"> <li>There must be toilet facilities provided in line with legal requirements for each sex working on site.</li> <li>Facilities to be cleaned daily by appointed members as per specification requirements.</li> <li>Eating areas to be established at a safe and secure location on site.</li> <li>Waste bins to be placed at strategic locations throughout site.</li> <li>Changing facilities to be provided to contractors / employees.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
27	Waste removal	<ul style="list-style-type: none"> <li>The erector not following the specific position as indicated by the Engineers Drawing. When digging for fence poles, services can be damaged. When fence Y-Standards get knocked it can damage services.</li> </ul>	<ul style="list-style-type: none"> <li>Loss time injuries Severe injuries Property damage Loss in production.</li> </ul>	2	2	4	16	C	<ul style="list-style-type: none"> <li>Waste must be removed from site at regular intervals.</li> <li>Waste must only be discarded at approved dump sites and proof of this documentation must be available upon request.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7



NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
									<ul style="list-style-type: none"> <li>Employees tasked with waste removal must be provided with sufficient PPE as per task risk assessment.</li> </ul>	
28.	Uncontrolled access of job-seekers, criminal elements.	<ul style="list-style-type: none"> <li>Rioting and violence.</li> </ul>	<ul style="list-style-type: none"> <li>Injury to employees, fatalities, damage to property and loss of production.</li> </ul>	3	2	6	36	C	<ul style="list-style-type: none"> <li>Construction vehicles may not be left unattended in the public areas. - All construction plant and machinery to be kept on site within fenced off areas. - Roads and passageways past the site must be cleaned daily and must be maintained constantly</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
29.	Employees facilities	<ul style="list-style-type: none"> <li>No designated eating area</li> <li>Contamination of food through exposure to site dust, rain, and elements.</li> </ul>	<ul style="list-style-type: none"> <li>Food poisoning</li> </ul>						<ul style="list-style-type: none"> <li>Suitable shaded eating is which protects the employees from the elements must be provided.</li> </ul>	
30.	Material & equipment handling - receiving and off-loading and loading of equipment and/or material	<ul style="list-style-type: none"> <li>Inadequate potable water.</li> </ul>	<ul style="list-style-type: none"> <li>Employees can suffer from dehydration or even stomach disease due to the use of unsafe water.</li> </ul>	2	2	7	28	C	<ul style="list-style-type: none"> <li>Must be done under the supervision of an appointed stacking inspector as per specification.</li> <li>Must be loaded / unloaded at designated areas only.</li> <li>Must be demarcated when loads are off loaded.</li> <li>Employees must be provided with the PPE as determined in the task risk assessment.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
31.	Interface with adjacent construction activities of other contractors.	<ul style="list-style-type: none"> <li>Inadequate toilet facilities for both sexes and inadequate signage posted. Toilets not serviced on regular basis.</li> </ul>	<ul style="list-style-type: none"> <li>In-hygienic condition which could also lead to disease.</li> </ul>	3	2	7	42	B	<ul style="list-style-type: none"> <li>Must communicate daily regarding activities / items that may affect 3rd party or site access.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
32.	Night work / After-hours work	<ul style="list-style-type: none"> <li>No supervision.</li> <li>Inadequate supervision on site during after-hours work.</li> <li>Inadequate illumination.</li> <li>Rise in increasing shift length. - Insufficient breaks.</li> <li>Exposed to extreme temperatures (cold)</li> <li>Use of drugs on site.</li> </ul>	<ul style="list-style-type: none"> <li>MVA</li> <li>Multiple Injuries to people.</li> <li>Fatalities.</li> <li>Equipment damage</li> <li>Public Litigation</li> </ul>	3	2	7	42	B	<ul style="list-style-type: none"> <li>May only commence after client approval is obtained.</li> <li>Must in line with the working hour requirements as legislated.</li> <li>Must be done under strict site management and supervision.</li> <li>Emergency structure must accommodate night work.</li> <li>Competent and medically fit employees only to perform nighttime work activities.</li> <li>Work areas and access / exit routes to be well illuminated</li> <li>Flagmen to be positioned</li> <li>Correct reflective PPE to be used.</li> <li>Necessary road traffic &amp; pedestrian controls to be in place (SATRSM Vol.2 Chap 13)</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
33.	Conducting construction activities in nature	<ul style="list-style-type: none"> <li>Safety and Health Risk from the Environment</li> </ul>	<ul style="list-style-type: none"> <li>Snake bite</li> <li>Bee Stings</li> <li>Dog Bites</li> </ul>	3	2	6	36	C	<ul style="list-style-type: none"> <li>Qualified first aider required for site who can treat snakebite</li> <li>Snake bite kit to be on hand</li> <li>Check area before working</li> <li>Find out nearest hospital and get emergency telephone numbers</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
34.	Conducting construction work in adverse weather conditions	<ul style="list-style-type: none"> <li>Exposure to sun, extreme heat, cold, wind, rain, lightning</li> </ul>	<ul style="list-style-type: none"> <li>Dehydration</li> <li>Heat exhaustion</li> <li>Skin cancer</li> <li>Hypothermia, colds, flu</li> <li>Loss of productivity</li> <li>Fatality</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Each employee performing manual labour in high temperatures exceeding 30 degrees must be declared medically fit for specific work before work conditions</li> <li>Have workers acclimatised before starting work</li> <li>Induct employees to take at least 600 millilitres of water every hour and on how to avoid heatstroke</li> <li>provide affected employees with prompt first-aid treatment in the event of heatstroke</li> <li>Provide sun protective clothing and cream</li> <li>Provide waterproof clothing of a type that will effectively protect the wearer against harm</li> <li>Schedule work in such a way that it would not warrant the use of PPE (Waterproof Clothing)</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
35.	Exposure to dehydration / heat exhaustion	<ul style="list-style-type: none"> <li>Employees being exposed to elements</li> <li>Unfavourable work conditions</li> <li>Excessive exposure to high temperatures</li> </ul>	<ul style="list-style-type: none"> <li>Danger to employees fainting at work, possibly while at height</li> <li>Heatstroke</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Each employee performing manual labour in high temperatures exceeding 30 degrees must be declared medically fit before work commences and thereafter yearly by a registered medical practitioner or a registered nurse and be issued with a fitness certificate</li> <li>Have workers acclimatised before starting work</li> <li>Induct employees to take at least 600 millilitres of water every hour and on how to avoid heatstroke</li> <li>Provide affected employees with prompt first-aid treatment in the event of heatstroke</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
36	Installation of and working with high- and low-tension cables and equipment	<ul style="list-style-type: none"> <li>Exposure to electricity by persons with lack of knowledge on safe work procedure</li> </ul>	<ul style="list-style-type: none"> <li>Shock</li> <li>Burns</li> <li>Fire</li> <li>Fatality</li> <li>Damage to property</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>All electrical wires must be sealed</li> <li>All electrical connections must be correct and properly sealed</li> <li>Do not touch electrical wires</li> <li>Wear the correct personal protective equipment, even if switched off, when working with electricity</li> <li>Keep water away from electrical wires</li> <li>Switch off electricity when working with electricity or near electricity especially if water is used</li> <li>Prevent tools and other equipment from touching electrical wires</li> <li>Use insulated tools and equipment</li> <li>Electrician to certify that electricity is switched off</li> <li>Lock out/Tag out system to be used to prevent accidental activation of electricity</li> <li>All electricity must be switched off when working near electricity with water</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
37		<ul style="list-style-type: none"> <li>Working at height</li> </ul>	<ul style="list-style-type: none"> <li>Fatality, major fractures, cuts, and bruises</li> </ul>						<ul style="list-style-type: none"> <li>Job specific training, Induction training and safety talks and planning and supervision</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
38		<ul style="list-style-type: none"> <li>Working with grinder, abrasives and cutting flame</li> </ul>	<ul style="list-style-type: none"> <li>Fire, inhalation of dust, eye injuries and burns</li> </ul>						<ul style="list-style-type: none"> <li>Provision of proper PPE, Induction training and safety talks and planning and supervision</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
39		<ul style="list-style-type: none"> <li>Lack of knowledge on safe work procedure</li> </ul>	<ul style="list-style-type: none"> <li>Shock</li> <li>Burns</li> <li>Fire</li> <li>Fatality</li> <li>Property damage</li> </ul>						<ul style="list-style-type: none"> <li>Only trained, competent workers may work on electrical system.</li> <li>Certified supervisor must be onsite at all times</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
40	Installation of systems, distribution boards and equipment	<ul style="list-style-type: none"> <li>Exposed wires</li> <li>Unauthorized people gaining access to DB board</li> <li>Faulty switches</li> <li>Overloading of wiring</li> <li>Not following lock-out procedures</li> <li>Incompetent electrical installer</li> </ul>	<ul style="list-style-type: none"> <li>Electrocution</li> <li>Fire</li> <li>Property damage</li> <li>Serious injuries/fatality.</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Distribution boards to be properly earthed</li> <li>Earth leakage relays should always be functional.</li> <li>All openings on DB box to be blocked to prevent rodents</li> <li>Lock out procedures to be in place. C.O.C must be available.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
41	Chasing into concrete using a grinder.	<ul style="list-style-type: none"> <li>Exposure to dust, noise, particles, and vibration services.</li> <li>Contact with existing height.</li> <li>Fall from</li> <li>Use of incorrect blade.</li> </ul>	<ul style="list-style-type: none"> <li>Cuts</li> <li>Inhalation of dust.</li> <li>Hearing loss if prolonged exposure to noise.</li> <li>Eye injury.</li> <li>Fractures</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Correct PPE use.</li> <li>Correct training received.</li> <li>Use eye protection.</li> <li>Checking plans and conducting services surveys</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
42	Install cable (surface)	<ul style="list-style-type: none"> <li>Use of impact drill</li> <li>Noise.</li> <li>Striking or being struck by falling objects.</li> <li>Flying particles including dust.</li> <li>Use of hand/power tools.</li> <li>Contact with existing services.</li> </ul>	<ul style="list-style-type: none"> <li>Hearing loss if prolonged exposure to noise.</li> <li>Cuts.</li> <li>Eye injuries</li> <li>Cuts abrasions.</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Correct PPE use.</li> <li>Correct training received.</li> <li>Checking plans and conducting services surveys</li> <li>Inspect equipment before shift</li> <li>Maintain equipment to manufacturers standard.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
43	Not conducting relevant pre-construction surveys	<ul style="list-style-type: none"> <li>Contact with electricity, water pipes</li> <li>Contact with harmful chemicals</li> <li>Contact with communication cables</li> <li>Damage to load bearing structures</li> </ul>	<ul style="list-style-type: none"> <li>Electrocution, fire, and water damage</li> <li>Damage to communication IT and accounting systems leading to financial and data loss</li> <li>Harm to health of workers</li> <li>Collapse of structure</li> </ul>	5	3	15	225	B	<ul style="list-style-type: none"> <li>Ensure that all required surveys are conducted and recommendations are implemented before or during construction</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
44	Lifting and Rigging.	<ul style="list-style-type: none"> <li>Lifting equipment not maintained &amp; inspected frequently can cause injury or damage to property. Operator, rigger, and banksman not competent or experienced.</li> </ul>	<ul style="list-style-type: none"> <li>Serious Injury/ fatal. damage.</li> <li>Property</li> <li>Loss of income.</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Adhere to lifting and rigging procedures.</li> <li>Only competent employees to operate lifting equipment.</li> <li>Only certified lifting equipment to be used.</li> <li>All lifting equipment to be fitted with SWL identifying tags.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
45	Craneage	<ul style="list-style-type: none"> <li>Incompetent crane operator</li> <li>Defective crane</li> <li>Hitting person/property whilst manoeuvring crane into position</li> <li>Outrigger hitting person/property during extension and lowering</li> <li>Improper hooking offload resulting in dropping part or entire load</li> <li>Use of damaged slings/chains</li> </ul>	<ul style="list-style-type: none"> <li>Loss time injuries</li> <li>Serious injuries</li> <li>Fatalities</li> <li>Property damage</li> </ul>	6	6	36	1296	AA	<ul style="list-style-type: none"> <li>Operator certificate of competency to be kept on file</li> <li>Crane to comply with all requirements as per the construction regulation, driven machinery regulation</li> <li>Banks man to be appointed</li> <li>Only certified chains/slugs to be used</li> <li>Correct PPE. to be used</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
		Incorrect slings used for load Crane tipping not done. Load test not done. No lifting plan							Operator to do pre use checklists daily Lifting plan must be developed for each job	
46	Working with electric tools	<ul style="list-style-type: none"> <li>Tools not correct for job.</li> <li>Tools not serviced.</li> <li>Broken tools not removed from service.</li> <li>Workers not trained to use tools correctly.</li> </ul>	<ul style="list-style-type: none"> <li>Electric shock</li> <li>Burns.</li> <li>Damaged equipment.</li> <li>Cuts, bruises, fractures</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Electric tools and installations to be in good condition</li> <li>Inspect electric tools before use</li> <li>Do not use electric tools in wet/damp conditions</li> <li>Use personal protective equipment such as insulated gloves</li> <li>Electrical installations register to be maintained, inspected by competent person</li> <li>Put on all necessary PPE</li> <li>No unauthorised work</li> <li>Get lock out permit</li> <li>Report to site office</li> <li>Switch off appropriate circuit breaker DB</li> <li>Use a lock out board - place key in pocket</li> <li>Ensure good housekeeping is maintained</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
47	Working with hand tools	<ul style="list-style-type: none"> <li>Exposure to defective equipment</li> <li>Incorrect usage of equipment</li> <li>Untrained staff using hand tools</li> </ul>	<ul style="list-style-type: none"> <li>Serious injury.</li> <li>Lost time injury.</li> <li>Personnel injury.</li> <li>Property damage.</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Ensure:</li> <li>Tool is correct for job</li> <li>Tool is in good order and suitably sharp</li> <li>Personnel must be competent/instructed in tool usage and tool safely</li> <li>Lighting is sufficient</li> <li>Access is safe, working platform is secure, leading edge is guarded</li> <li>Operative is wearing all necessary PPE</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
48	Plumbing	<ul style="list-style-type: none"> <li>Working with open flame</li> </ul>	<ul style="list-style-type: none"> <li>Fire and burn wounds, property damage</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Fire prevention training, safety talks, adequate fire equipment</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
		<ul style="list-style-type: none"> <li>Working at height</li> </ul>	<ul style="list-style-type: none"> <li>Fatality, major fractures, cuts, and bruises</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Induction training and safety talks and planning and supervision, Provision of proper PPE</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
		<ul style="list-style-type: none"> <li>Improper use of tools</li> <li>Use of untrained employees</li> <li>Use of open flames</li> <li>Struck by materials falling</li> </ul>	<ul style="list-style-type: none"> <li>Injury to person</li> <li>Fire</li> <li>Burns</li> <li>Exposure to lead fumes</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Ensure standard safety procedures are followed at all times</li> <li>Only used trained and competent personnel</li> <li>Ensure there is a safe working area at all times</li> <li>Ensure materials are stored neatly</li> <li>Ensure there is safe access and egress at all times</li> <li>Ensure all personnel wear suitable and sufficient personal protective equipment</li> <li>Consider a hot works permit system prior to commencing any hot works</li> <li>Make sure emergency procedures are in place and ensure all personnel are aware of where to go in case of a fire</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
49	Tiling	<ul style="list-style-type: none"> <li>Carrying tiles</li> </ul>	<ul style="list-style-type: none"> <li>Back injuries</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Induction training and safety talks and planning</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
		<ul style="list-style-type: none"> <li>Exposure to tile chippings, dust</li> </ul>	<ul style="list-style-type: none"> <li>Exposure to dust, eye injuries</li> </ul>	6	1	6	36	C	<ul style="list-style-type: none"> <li>Provision of proper PPE, Induction training and safety talks and planning</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
		<ul style="list-style-type: none"> <li>Working with grinder</li> </ul>	<ul style="list-style-type: none"> <li>Fire, inhalation of dust, eye injuries</li> </ul>	6	1	6	36	C	<ul style="list-style-type: none"> <li>Provision of proper PPE, Induction training and safety talks and planning and supervision</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
50	Painting	<ul style="list-style-type: none"> <li>Working at height and exposure to paint</li> </ul>	<ul style="list-style-type: none"> <li>Fatality, major fractures, cuts and bruises, allergy to paint</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Induction training and safety talks and planning and supervision, Provision of proper PPE</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
51	Placing of pre-stress slabs	<ul style="list-style-type: none"> <li>Placement of heavy concrete slabs</li> </ul>	<ul style="list-style-type: none"> <li>Fatality, major fractures, cuts, and bruises</li> </ul>	3	3	9	81	B	<ul style="list-style-type: none"> <li>Planning, barricade, training, and supervision</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
52	Installation of ceilings	<ul style="list-style-type: none"> <li>Working on unsafe scaffolding and ladders</li> <li>Objects falling on workers below</li> <li>Incorrect use of PPE.</li> <li>Unsafe use of tools and equipment.</li> </ul>	<ul style="list-style-type: none"> <li>Severe injuries to employees</li> <li>Loss time injuries</li> <li>Property damage</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Supervisors to make sure ladders and scaffolding is up to standard at all times</li> <li>All workers to be trained in correct use of PPE. and safe use of hand tools</li> <li>Good housekeeping</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
53	Excavation, trenching	<ul style="list-style-type: none"> <li>Cave-in of trench/excavation</li> </ul>	<ul style="list-style-type: none"> <li>Damage to excavator and possible fatality, injury to persons</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Plan and supervise excavations, use of excavation form, Shoring, benching or any other safety measures required by the when ground formation or depth requires, Removal of workers from trench/ excavation at risk is increased due to close working of compactors, change in ground conditions, rain, or water seepage</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
		<ul style="list-style-type: none"> <li>Persons/vehicles falling into trench/ excavation</li> </ul>	<ul style="list-style-type: none"> <li>Fractures, cuts, bruises, and injury to persons</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Protect vehicles from falling into excavations - provide barriers, signage, etc as necessary</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
		<ul style="list-style-type: none"> <li>Possibility of hitting existing cables/pipes</li> </ul>	<ul style="list-style-type: none"> <li>Electric explosion, electrocution, fire, lost time through lack of water or electricity and replacement cost</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Correct planning and use of excavation planning form, appointment of competent supervisor</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
		<ul style="list-style-type: none"> <li>Toxic fumes</li> <li>Collapse of adjacent structures</li> <li>Dust</li> <li>Not conforming to the Construction regulations</li> <li>Uncontrolled access</li> <li>Hoarding not erected with sufficient height and safety distance</li> </ul>	<ul style="list-style-type: none"> <li>Suffocation</li> <li>Serious injury/Fatal.</li> <li>Lost time injury.</li> <li>Personnel injury.</li> <li>Property damage.</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Survey to be done to determine soil conditions and location of underground services</li> <li>Excavations should be sloped to prevent collapse. If more than 2 meters deep, excavations must be shored, be provided with safe access in case of emergency</li> <li>Record the full details and results of inspections to be kept on site</li> <li>The competent person is to inspect the excavation on site: Daily, Prior to each shift and After rain , after an unexpected fall of ground and after any damage to supports, bracing or shoring</li> <li>Where any uncertainty pertaining to the stability of the soil still exists, the decision from a professional engineer or a professional technologist competent in excavations shall be decisive</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
54	Compacting and Filling	<ul style="list-style-type: none"> <li>Contact with tipping materials</li> <li>Contact with moving plant</li> <li>Vehicles/personnel falling into excavations</li> <li>Contact with underground services</li> <li>Hearing Loss</li> <li>Use untrained employees</li> </ul>	<ul style="list-style-type: none"> <li>Serious injury/Fatal.</li> <li>Lost time injury.</li> <li>Personnel injury.</li> <li>Property damage.</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Flagmen to control vehicles movement</li> <li>Only trained personnel use plant</li> <li>Personal Protective Equipment to be worn</li> <li>Personnel to stand clear as materials are being tipped</li> <li>Use stop blocks and signs to warn vehicles of excavations, where applicable</li> <li>Stand clear of plant whilst materials are being compacted</li> <li>Establish position of underground services and protect services from damage</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
55	Ground/soil conditions	<ul style="list-style-type: none"> <li>Saturated soil</li> <li>Unstable soil</li> <li>Contaminated soil</li> <li>Collapse of trench/ excavation walls/trapping</li> <li>Falling into excavation</li> <li>Collapse of adjacent structures</li> </ul>	<ul style="list-style-type: none"> <li>Serious injury/Fatal.</li> <li>Lost time injury.</li> <li>Personnel injury.</li> <li>Property damage.</li> <li>Suffocation</li> <li>Cuts</li> <li>Bruises</li> <li>Fractures</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Survey to be done to determine soil conditions and location of underground services</li> <li>Beware of undermining of other structures (e.g.: buildings, scaffolds)</li> <li>Safety shoes, visible vests, dust masks, hard hats and gloves to be used</li> <li>Where any uncertainty pertaining to the stability of the soil still exists, the decision from a professional engineer or a professional technologist competent in excavations shall be decisive and such a decision shall be noted in writing and signed by both the excavation supervisor and the professional engineer or technologist, as the case may be.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
56	Underground Services	<ul style="list-style-type: none"> <li>No surveys done to establish existing services.</li> <li>No way-leaves available</li> <li>Striking of buried services</li> </ul>	<ul style="list-style-type: none"> <li>Injury to employees</li> <li>Disruption of services to community.</li> <li>Fines and claims for damage</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Make all necessary enquiries to establish what services are in the area.</li> <li>Consult drawings and advice from service provider (e.g.: Municipality or ESKOM) when planning work.</li> <li>Assume all service to be live (Unless confirmation is received to confirm that services are isolated or otherwise made safe).</li> <li>Do not work near live services without authorisation from site management.</li> <li>Comply with the requirements of the safe system of work for underground services.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7

No	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
									Where available, locate services with a locator Hand dig around services	
57	Bulk earthworks	▪ Large plant not able to stop in time. Operator not seeing other employees Unsafe act or condition not being rectified in time. Employees crossing the haulage roads.	▪ Loss time injury Property damages Serious injury/fatalities.	6	6	36	1296	AA	▪ Supervisor to make sure bulk earthworks area is out of bounds to unauthorized persons All employees to be inducted Correct PPE. to be used and all workers to be clearly visible Pre use inspections to be done daily Operator certificates must be on site	Responsible Section 16.2 / CR 8.1 / CR 8.7
58	Bricklaying	▪ Working with tools, bricks, and mortar	▪ Foot, hand, and body injuries	6	1	6	36	C	▪ Provision of proper PPE, Induction training and safety talks and planning	Responsible Section 16.2 / CR 8.1 / CR 8.7
		▪ Working at height on scaffold and trestles	▪ Fatality, major fractures, cuts, and bruises	6	3	18	324	AA	▪ Provision of proper PPE, Induction training and safety talks and planning and supervision	Responsible Section 16.2 / CR 8.1 / CR 8.7
		▪ Working at unprotected edges	▪ Fatality, major fractures, cuts, and bruises	6	3	18	324	AA	▪ Planning, barricade, training, and toolbox talks	Responsible Section 16.2 / CR 8.1 / CR 8.7
59	Plastering	▪ Faulty hand tools Faulty spirit level Rubble and material. (tripping and falling) Working at heights (different level falls)	▪ Poor quality work Lost time injury. Serious injury/fatal.	6	3	18	324	AA	▪ Good quality tools in good condition Clean area Training on correct use of tools Fall protection plan to be in place	Responsible Section 16.2 / CR 8.1 / CR 8.7
60	Finishing.	▪ Hand tools used incorrectly Exposure to hazardous materials, Dust, paint, and other materials. Poor Housekeeping Trip hazards is. Working in elevated position.	▪ Loss time injuries Severe injuries Loss in production.	6	2	12	144	B	▪ Correct PPE use. Correct training received. Use eye protection.	Responsible Section 16.2 / CR 8.1 / CR 8.7
61	Partition installation	▪ Unsafe use of PPE. Obstacles on ground may cause tripping and falling Material may dislodge causing employee to fall down Untrained employees working with portable electrical equipment Unsafe electrical tools Unsafe extension cords (electrocution) Unsafe ladders Incompetent workers	▪ Loss time injuries Severe injuries Property damage Loss in production Fatalities Electrocution	6	6	36	1296	AA	▪ All employees to be trained on safe use of PPE. Good housekeeping All equipment and tools to be checked daily Provide safe access at all times Lift all cables off ground where possible All workers to be trained for the task at hand Only competent workers to use electrical tools Provide a valid fall protection plan	Responsible Section 16.2 / CR 8.1 / CR 8.7
62	Paving	▪ Truck colliding with workers/vehicles/plant while delivery of material Lack of supervision Unstable foundations or pallets can cause collapsing of brick stack Struck by falling loads Incorrect use of PPE. Scattered and protruding objects Exposure to noise and dust Loss time injuries Fatalities Hazardous chemicals (petrol) Faulty hand tools Incorrect level and positioning of paving	▪ Severe injuries Property damage Loss in production	6	2	12	144	B	▪ Truck driver to be trained and competent All workers to be trained and inducted Correct use of PPE. (dust masks) Level area and all load bearing equipment in satisfactory condition Supervisor to safely space workers from each other MSDS, use gloves when refuelling Always use correct lifting techniques	Responsible Section 16.2 / CR 8.1 / CR 8.7
63		▪ Repetitive bending. Exposure to noise and dust	▪ Impact injuries Ergonomic injuries Cuts Injury to knees Hearing and eye damage	6	2	12	144	B	▪ Impervious gloves to be worn/ barrier cream to be used Kneelers or similar to be available Personal protective equipment to be worn – for example if saw used to cut pavers	Responsible Section 16.2 / CR 8.1 / CR 8.7
64	Glazing	▪ Cutting and working with glass and aluminium	▪ Major cuts and amputations	6	2	12	144	B	▪ Provision of proper PPE, Induction training and safety talks and planning and supervision	Responsible Section 16.2 / CR 8.1 / CR 8.7
65	Steelwork	▪ Carrying heavy material	▪ Back, hand and foot injuries	6	2	12	144	B	▪ Induction training and safety talks and planning	Responsible Section 16.2 / CR 8.1 / CR 8.7
		▪ Working with grinder, abrasives and cutting flame	▪ Fire, inhalation of dust, eye injuries and burns	6	2	12	144	B	▪ Provision of proper PPE, Induction training and safety talks and planning and supervision	Responsible Section 16.2 / CR 8.1 / CR 8.7
		▪ Exposure to welding arch and fumes	▪ Long term respiratory disease	6	2	12	144	B	▪ Good ventilation and Provision of proper PPE, Induction training and safety talks and planning	Responsible Section 16.2 / CR 8.1 / CR 8.7



NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
66	Steel Erection	<ul style="list-style-type: none"> <li>Lack of knowledge on safe work procedure</li> <li>Incompetent erectors, crane operators, rigger</li> <li>Workers harness not secured or no lifeline.</li> <li>Work area not barricaded</li> <li>Lifting equipment not in good working condition.</li> </ul>	<ul style="list-style-type: none"> <li>Cuts, bruises, and fractures Possible fatalities</li> <li>Damage to property</li> </ul>	6	6	36	1296	AA	<ul style="list-style-type: none"> <li>Adhere to all general precautions for working at height</li> <li>Barrier off / exclude area below work</li> <li>All lifting appliances to be examined and inspected</li> <li>Inspection registers in place and up to date</li> <li>All personnel to be trained and competent and wear clipped on safety harnesses when working at height</li> <li>Ensure that lifting equipment (slings, chains, shackles) test certificates are current and on site</li> <li>Competent persons only to connect loads and direct plant</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
67	Installation of balustrade fencing	<ul style="list-style-type: none"> <li>Transfer of material to assembly area</li> <li>Use of portable electric tools</li> <li>Use of welding machines</li> <li>Working on ladders or unsafe working platforms</li> <li>Fire</li> </ul>	<ul style="list-style-type: none"> <li>Severe injuries</li> <li>Loss time injuries</li> <li>Property damage</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Workers to be trained on safe use of hand tools and safe lifting methods</li> <li>All ladders to be according to standard</li> <li>Fire extinguishers available on site</li> <li>Only trained workers to use with portable electric equipment</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
68	Temporary work	<ul style="list-style-type: none"> <li>Working with tools, bricks, and mortar</li> </ul>	<ul style="list-style-type: none"> <li>Foot, hand, and body injuries</li> </ul>	6	1	6	36	C	<ul style="list-style-type: none"> <li>Provision of proper PPE, Induction training and safety talks and planning</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
		<ul style="list-style-type: none"> <li>Working at height on scaffold and trestles</li> </ul>	<ul style="list-style-type: none"> <li>Fatality, major fractures, cuts, and bruises</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Provision of proper PPE, Induction training and safety talks and planning and supervision</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
		<ul style="list-style-type: none"> <li>Working at unprotected edges</li> </ul>	<ul style="list-style-type: none"> <li>Fatality, major fractures, cuts, and bruises</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Planning, barricade, training, and toolbox talks</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
69	Form Work	<ul style="list-style-type: none"> <li>Untrained erectors.</li> <li>No temporary work design.</li> <li>No competent supervision</li> <li>Poor quality or inadequate material</li> </ul>	<ul style="list-style-type: none"> <li>Serious injury/Fatal.</li> <li>Lost time injury.</li> <li>Personnel injury.</li> <li>Property damage.</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Formwork must be assembled by competent workers under supervision of an experienced supervisor.</li> <li>Formwork must be assembled in accordance with the design that was developed by a competent person.</li> <li>The formwork must be signed off by the designer before concrete pour.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
70	Tower Scaffold	<ul style="list-style-type: none"> <li>Scaffold not built to standard</li> <li>Lifting of heavy unit into ceiling</li> <li>Un-authorized access</li> <li>Overloading of scaffold</li> <li>Weather conditions</li> <li>medical condition of worker</li> </ul>	<ul style="list-style-type: none"> <li>Injury to employees, possible fatal and damage to property.</li> </ul>	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Tower to be on firm level ground with wheels or feet properly supported.</li> <li>Height not to exceed 3 times the base dimension. i.e. 2x3m</li> <li>Erection by competent person</li> <li>Inspection before first use</li> <li>Weekly record of inspection required</li> <li>Guard rails and Toe boards as per normal scaffolds</li> <li>Beware when moving of overhead obstructions, such as power lines</li> <li>Never move in strong winds</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
71	Shuttering	<ul style="list-style-type: none"> <li>Lack of planning.</li> <li>Incorrect equipment</li> <li>No pre use inspection of equipment</li> <li>Incorrect PPE.</li> <li>Designated areas and structures not in clean and orderly fashion</li> </ul>	<ul style="list-style-type: none"> <li>Serious injury.</li> <li>Loss time injuries.</li> <li>Property damage.</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Equipment to be checked, identified and entered in a prior to use</li> <li>All employees to be trained</li> <li>Good housekeeping at all times</li> <li>Ensure proper/safe off loading</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
72	Plant or Vehicles Operation	<ul style="list-style-type: none"> <li>Equipment failing</li> <li>Workers injured by passing traffic</li> <li>Road users and pedestrians at risk from operation of moving plant</li> <li>Noise</li> </ul>	<ul style="list-style-type: none"> <li>Hearing Loss</li> <li>Injury to employees</li> <li>Damage to property</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Implement traffic protection measures</li> <li>Trained and competent operators must be used</li> <li>Check plant and vehicles on daily basis before use and record inspections.</li> <li>Maintain vehicles in safe condition</li> <li>Medical certificates of fitness required for construction plant</li> <li>Crossing of road by construction vehicles or machines must be limited to the practical minimum</li> <li>Plant and vehicles must be fitted with amber rotating beacons and reverse alarms/hooters</li> <li>Wear appropriate protective clothing/equipment, e.g.: goggles, gloves, ear defenders, etc as appropriate</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
73	Compactors	<ul style="list-style-type: none"> <li>High noise levels</li> </ul>	<ul style="list-style-type: none"> <li>Hearing loss</li> </ul>	6	2	12	144	B	<ul style="list-style-type: none"> <li>Provision of proper PPE, Induction training and safety talks</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
		▪ Heavy moving machine	▪ Foot injury	6	1	6	36	C	▪	Responsible Section 16.2 / CR 8.1 / CR 8.7
74	Operation of machinery and vehicles.	▪ Employees not trained or licensed can cause incorrect operation of equipment resulting in collision. Poor visibility can cause collision. Checklist not properly visually done.	▪ Lost time injury. Serious injury/fatality. Damage to property.	6	3	18	324	AA	▪ Formal training on the use of equipment. Correct type of license used by the operators. Medical certificates available. Proper checklist system to be implemented. Defects logged and repair prior to use.	Responsible Section 16.2 / CR 8.1 / CR 8.7
75	Parking of machinery and vehicles.	▪ Uneven surfaces can cause machinery/vehicle to run away. If park brake is not applied, machinery/vehicle can run away. If stop block is not put behind wheels' machinery/vehicle can move. If machinery/vehicle is not locked it can cause the use of unauthorised person.	▪ Serious injury/fatality. Lost time injury. Property damage.	6	3	18	324	AA	▪ Draft safe work procedures for parking of machinery/vehicles. Train employees on the procedures. All machinery/vehicles to be equipped & Cd with stop blocks. Ensure Park brake in working condition at all time.	Responsible Section 16.2 / CR 8.1 / CR 8.7
76	Use of generators	▪ Chemical vapours. Noise.FireBack injuries when lifting Electric shock	▪ Lost time injury. Personnel injuriesNoise induced hearing loss	6	2	12	144	B	▪ Correct PPE. to be usedPrevent spillages and leaksFire extinguisher available Generator to be properly earthed and in good condition.	Responsible Section 16.2 / CR 8.1 / CR 8.7
77	Grader	▪ Employee being injured by standing on, under or too close to engine or tamping drum Grader engine failure Grader colliding into other plant or LDV Employees being run over by grader.	▪ Severe injuries time injuries Fatalities Property damage Environmental damage	6	6	36	1296	AA	▪ All protective guards must be in place before start of engine. Operator should be competent and trained with competency certificate in file Grader must be well maintained inspected. Correct PPE must be used	Responsible Section 16.2 / CR 8.1 / CR 8.7
78	Transporting and tipping of soil by using tipper trucks	▪ Tipper colliding into other LDV Tipper overturning Material tipped onto employees Tipper reversing over employees is exposed to noise and dust Tipper tipping in incorrect area	▪ Severe injuries Loss time injuries Damage to property Fatalities Loss in production.	6	6	36	1296	AA	▪ Operator must be trained and competent Tipper to be used at safe angle Employees to stay clear of tipper when dropping of soil Tipper truck must be well maintained with records on file	Responsible Section 16.2 / CR 8.1 / CR 8.7
79	Use of Pneumatic drill/Jackhammers	▪ Damaged machine could cause injury and or damage Not using PPE while working with machine Incompetent employees working with machine can cause injury Employees exposed to dust and noise Unsafe use of power tools	Loss time injuries. Severe injuries. Property damage.	6	2	12	144	B	▪ Machines need to be serviced and well maintained Pre use checklist to be done Competent and trained employees to use machine only Always use the correct PPE. (respirators, eye protection) Only trained and competent people to work with power tools	Responsible Section 16.2 / CR 8.1 / CR 8.7
80	Operating the whacker.	▪ Incompetent operatorHazardous chemicals (petrol) Employees exposed to dust, noise, and vibration	Loss time injury Property damage	6	2	12	144	B	▪ Use correct PPE.Operator needs to be competent and trainedMSDS, use hand gloves when refuelling	Responsible Section 16.2 / CR 8.1 / CR 8.7
81	Excavator.	▪ Machine overturning. Materials or equipment falling from Machine. Workers being endangered by machine operation. Machine arcing with or coming into contact with overhead cables or underground services.	Loss time injuries Severe injuries Property damage Loss in production Fatalities Damage to existing services could cause financial claims	6	6	36	1296	AA	▪ Operator to be trained and competent. The operator will be responsible for ensuring machine is not misused and that it is maintained accordingly. Excavator must not be operated within 6m of overhead power cables when the boom is fully extended, unless suitable precautions are taken. Before excavation ground survey will be made to locate any underground services and prevent damage or injury.	Responsible Section 16.2 / CR 8.1 / CR 8.7
82	Dumper.	▪ Machine overturning. Falling of dumper. Collision with other plant or pedestrians.	Loss time injuries Severe injuries Property damage Loss in production	6	2	12	144	B	▪ Driver to be trained, certified and have a valid driver's license. No unauthorised persons will be permitted to use the dumper. No overloading the dumper. Dumper not to be within 1.5m of any excavation. When tipping the dumper must be on level ground and suitable measures must be taken to prevent "overturning."	Responsible Section 16.2 / CR 8.1 / CR 8.7
83	TLB	▪ Workers can fall under wheels. Struck by boom or bucket. Falling material on workers or equipment. Collision with other plant or pedestrians.	Loss time injuries Severe injuries Property damage Loss in production Fatalities	6	6	36	1296	AA	▪ Driver to be trained, certified and have a valid driver's license. No unauthorised persons will be permitted to use the TLB. No overloading the TLB. TLB not to be within 1.5m of any excavation. No extra worker or persons in cab except operator.	Responsible Section 16.2 / CR 8.1 / CR 8.7
84	Water Tanker.	▪ Fall under wheels. Collision with other plant or pedestrians. Water Tanker overturn.	Loss time injuries Severe injuries Property damage Loss in production Fatalities	6	6	36	1296	AA	▪ Driver to be trained, certified and have a valid driver's license. No unauthorised persons will be permitted to use the Water Tanker. No worker allowed on the back of moving Water Tanker.	Responsible Section 16.2 / CR 8.1 / CR 8.7
85	Concrete Mixer.	▪ Loose clothing can get caught in machine.Limbs trapped or severed. Inhalation of cement dust. Eye injuries.	Loss time injuries Severe injuries Property damage Loss in production.	6	2	12	144	B	▪ Operator to be trained and competent in using a concrete mixer.Proper PPE. to be worn. Correctly moving	Responsible Section 16.2 / CR 8.1 / CR 8.7

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
									and handling the chutes. Stay always a clear distance from concrete mixer.	
86	12 Ton flat drum roller.	<ul style="list-style-type: none"> <li>Fall under drum.</li> <li>Collision with other plant or pedestrians.</li> <li>Workers can fall under drum.</li> </ul>	Loss time injuries Severe injuries Loss in production. Fatality	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Operator to be trained and competent in using a flat drum roller.</li> <li>Proper PPE. to be worn. Always aware of workers around the roller.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
87	Pad foot roller.	<ul style="list-style-type: none"> <li>Fall under drum.</li> <li>Collision with other plant or pedestrians.</li> <li>Workers can fall under drum.</li> <li>Not wear always a kidney belt for vibration it can cause carpal tunnel syndrome and kidney problems.</li> </ul>	Loss time injuries Severe injuries Loss in production. Damage to property. Fatality	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Operator to be trained and competent in using a pad foot roller.</li> <li>Proper PPE. to be worn.</li> <li>Always aware of workers around the roller.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
88	Welding & Flame Cutting Equipment Inspection & Use	<ul style="list-style-type: none"> <li>Sparks being created in a vapour zone</li> <li>Possible explosion Injury to employees</li> <li>Fire hazard</li> <li>Untrained persons</li> <li>Unsafe equipment</li> <li>Incorrect connection to welding machine</li> <li>Poor welding operation</li> <li>Exposure of others in work area to sparks</li> <li>Exposure of poisonous gases</li> </ul>	Damage to property Injury to employees Electrocutation Fire Burns, injury to employees Electrical shock Arc' eyes injury	3	6	18	326	AA	<ul style="list-style-type: none"> <li>Only trained employees may operate the machine Train employees and keep copy of training certificate Keep a copy of certificate</li> <li>Keep machine in good condition</li> <li>Keep register up to date and inspect equipment monthly</li> <li>Operator must be in visual contact with the welding equipment at all times</li> <li>Ensure welding machine is positioned away from access route and is visible to the operator at all times.</li> <li>Only approved welding cables may be used.</li> <li>Operator and supervisor must ensure only approved connections are used.</li> <li>Clamp ground or earth cable into position</li> <li>Use correct clamps; Connect only by means of approved clamps</li> <li>Do not weld ground or earth cable into position</li> <li>Secure work area and good ventilation</li> <li>Always clamp the earth cable into position</li> <li>Use a screen, or work in an area away from other employees</li> <li>Work in an area with good ventilation</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
89	Flame cutting.	<ul style="list-style-type: none"> <li>Unsafe flame cutting equipment used.</li> <li>Employees not competent to perform flame cutting.</li> <li>Flame cutting equipment not maintained and inspected.</li> </ul>	Fatality. A lost time injury. Property damage.	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Flame cutting equipment to be fitted with flashback arrestors.</li> <li>Flame cutting equipment to be inspected daily and deviations rectified.</li> <li>Safe storage or pressure equipment after use.</li> <li>Only competent employees to perform flame cutting.</li> <li>Ensure the correct PPE.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
90	Arc welding.	<ul style="list-style-type: none"> <li>Employees not competent to perform arc welding.</li> <li>Faulty equipment. Chemical/ flammable material next to welding activities.</li> <li>Inspections not frequently performed on equipment.</li> </ul>	Serious injury/fatal. Lost time injury. Property damage. Environmental.	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Only competent employees perform arc welding.</li> <li>Frequently inspections.</li> <li>No welding to be done near flammable liquids.</li> <li>Ensure the correct PPE.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
91	Oxy acetylene equipment	<ul style="list-style-type: none"> <li>Using unsafe and faulty equipment Fire and smoke inhalation from burning steel</li> <li>Incompetent workers</li> <li>The use of gas equipment has a high potential for fire and or explosions Flammable liquids close to working area</li> <li>Unauthorised persons in work area.</li> </ul>	Loss time injuries Severe injuries Explosions Fatalities Property damage	6	6	36	1296	AA	<ul style="list-style-type: none"> <li>NEVER use oil or grease on any gas fittings</li> <li>Correct use of PPE.</li> <li>Fire equipment to be in close proximity</li> <li>Only trained and competent workers to use equipment</li> <li>Store in a safe way</li> <li>No unauthorized persons in work area.</li> <li>Make sure area of work is clear of unauthorized persons.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
92	Stacking and storage	<ul style="list-style-type: none"> <li>Storage and work areas not kept clean and safe</li> </ul>	Damage to property, injuries	6	1	6	36	C	<ul style="list-style-type: none"> <li>Job specific training, Induction training and safety talks and planning and supervision</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
93	Stacking of material.	<ul style="list-style-type: none"> <li>Employees not trained on safe work procedures.</li> <li>The crane operator incompetent.</li> <li>The slings are not tested as prescribed.</li> <li>Equipment not inspected and maintained frequently.</li> <li>Lifting equipment not maintained &amp; inspected frequently can cause injury or damage to property.</li> </ul>	Serious injury/fatal. Lost time injury. Personnel injury. Property damage.	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Adhere to lifting and rigging procedures.</li> <li>Only competent employees to use lifting equipment.</li> <li>Only certified lifting equipment to be used.</li> <li>All lifting equipment to be fitted with SWL identifying tags.</li> <li>Area where to be stacked is level area.</li> <li>Barricading to be done around stacking material.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7



NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
94	Stacking of Structural Steel	Employees not trained. Not wearing the correct PPE. Steel is not placed on wood poles not direct on ground to prevent rust.	Serious time injuries injury. Lost Personnel injury.	6	2	12	144	B	Train employees on the procedures. Use correct PPE.	Responsible Section 16.2 / CR 8.1 / CR 8.7
95	Housekeeping	Poor housekeeping on construction sites. Trips and falls. Creating dust. Fire hazards	Serious time injury. Lost time injury. Personnel injury. Property damage.	6	2	12	144	B	Ensure the area below where any elevated work is being performed is free of any rubble, spikes, tools, or equipment. Ensure that all areas have been checked by competent persons daily. Ensure that all site agents have certified their work area as safe by the end of each shift. Good housekeeping principles.	Responsible Section 16.2 / CR 8.1 / CR 8.7
96	Hazardous Substances, Use and Storage	Exposure to vapours. Direct contact with substances. Use untrained employees	Injuries to workers through use of hazardous substances, e.g.: injuries to eyes, skin, inhalation, etc. Damage to environment	3	2	6	36	C	Use substances in accordance with data sheet, particularly reference protective clothing required (example: gloves, goggles, etc). Know what First Aid measures are. Have welfare facilities available for washing of hands, etc. Train employees in usage of substances	Responsible Section 16.2 / CR 8.1 / CR 8.7
97	Use and storage of flammable liquids	Improper storage of flammable substances. Possible fire. Unmarked containers. Employees smoking in vapour zones. Untrained employees	Serious injury to employees. Burns. Property damage. Explosions. Fire	6	2	12	144	B	Flammable substances to be stored in an appropriate flammable store which is well ventilated and a reasonably fire-resistant container, cage or room and kept locked with proper access control measures in place. Material Safety Data Sheets to be in safety file. No smoking, and no heat/ignition close to or at sources. Employees to be made aware of dangers. Signage to be brought on to indicate dangers	Responsible Section 16.2 / CR 8.1 / CR 8.7
98	Diesel Storage	Theft of fuel. Fire at storage area. Spillage due to leak in tank. Inhalation of hazardous vapours.	Property damage. Serious injuries/fatal. Lost time injury	6	3	18	324	AA	Ensure that security guards are on duty and that there is sufficient lighting during the night. Employees should be trained in firefighting and fire extinguishers available in all areas on site. Fuel tank to be properly secured and well ventilated. Bund wall to be in place to contain all spillage. Display no smoking and open flame signage. Provide adequate fire equipment with signage.	Responsible Section 16.2 / CR 8.1 / CR 8.7
99	Hazardous chemicals and storage	Inhaling/Handling/Untrained employees' Insufficient ventilation	Severe injuries. Loss time injuries. Fatal.	6	3	18	324	AA	Use the SABS 0228 code of practice. Correct PPE. to be used by employees. Sufficient ventilation in storage areas	Responsible Section 16.2 / CR 8.1 / CR 8.7
100	Confined Spaces	Lack of oxygen. Explosive gasses. Not being able to communicate with each other. Restricted movement. Not using correct PPE. Ensure all sources of energy (steam, electricity, water) to confined space is isolated and locked out. Unlit area	Suffocation. Serious injuries. Fatalities. Property damage	6	6	36	1296	AA	Ensure that correct PPE. is issued. Trained competent person to ensure that locking out of energy sources has been completed. (water, compressed air). All employees to have completed induction training. All employees must have valid medical certificate. Ensuring that communication is maintained at all times with "hole watch" tested using a dosimeter to ensure atmosphere is safe to work in. Install sufficient lighting.	Responsible Section 16.2 / CR 8.1 / CR 8.7
101	Working at Height Elevated Work	Unsafe access (Ladders, scaffold) to work area. Objects falling from above. Falling debris, tools, and equipment. Inclement weather.	Serious injury/Fatal. Lost time injury. Personnel injury. Property damage.	6	3	18	324	AA	All access equipment is properly constructed (inspections record must be maintained). Only trained personnel construct, dismantle or control the access equipment. All access equipment must have full toe boards and guardrails - comply with SANS 10085 on erection/use and dismantling of scaffolding. No access equipment may be loaded above the level of the guardrail. No access equipment to be loaded above its safe working load. Where work involves leaning out on an open leading edge, then all personnel are to be fitted with full body harness. The harness must be connected at all times. All fall arrest equipment to be correctly maintained. Ensure if ladders are being used for access, they are either footed or tied. Also, the ladder must be set at the correct level of 1 in 4 or approximately 75	Responsible Section 16.2 / CR 8.1 / CR 8.7

No	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
									PPE to be used: harnesses, hardhats, safety shoes, overalls. Ensure staff at height all has medical and psychological certificates. Harnesses to be inspected daily.	
102	Open edges	<ul style="list-style-type: none"> <li>Un-authorized removal of edge protection and signage</li> <li>No edge barricading done.</li> </ul>	Fatalities. Serious injury. Loss time injuries. Property damage.	6	6	36	1296	AA	<ul style="list-style-type: none"> <li>Use barricades in such a manner to prevent any person from falling.</li> <li>Always ensure that barricading is done in a manner that is safe. Barricading must be of high standard. Barricading must be able to prevent a person from falling from open edges.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
103	Working at elevated positions	<ul style="list-style-type: none"> <li>Slipping and falling, persons not fit to work at heights i.e. vertigo, epilepsy.</li> <li>Objects falling down from above.</li> <li>Working unsecured and falling down.</li> <li>Trying to carry material or tools up a ladder/ scaffolding while climbing up.</li> <li>Areas not barricaded.</li> </ul>	Loss time injuries. Fatalities. Property damage.	6	6	36	1296	AA	<ul style="list-style-type: none"> <li>Adequate secure ladders/platforms and scaffolding to be used</li> <li>All employees working at heights to have valid medical certificate</li> <li>Fall prevention systems to be</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
104	Edge Protection.	<ul style="list-style-type: none"> <li>Solid Edge Protection not installed on all open edges of Buildings including Excavations 1.5 meters or deeper.</li> <li>No warning signs posted.</li> </ul>	Fatalities Loss time injuries Severe injuries Property damage Loss in production.	6	6	36	1296	AA	<ul style="list-style-type: none"> <li>Barricading must be strong enough to prevent a person from falling from height.</li> <li>Fall risk signs can be posted.</li> <li>Induction training must cover working in close proximity to open edges.</li> <li>Regular toolbox talks on the topic must be conducted.</li> <li>Daily task risk assessments must be conducted and recorded.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
105	Roof work	<ul style="list-style-type: none"> <li>Working at height</li> </ul>	Fatality, major fractures, cuts, and bruises	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Provision of proper PPE, Induction training and safety talks and planning and supervision</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
		<ul style="list-style-type: none"> <li>Carrying heavy material on roof</li> </ul>	Fatality, major fractures, cuts and bruises of worker and others	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Induction training and safety talks and planning</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
106	Roof truss erection	<ul style="list-style-type: none"> <li>Unsafe access to work area used</li> <li>Incorrect PPE</li> <li>Objects falling from heights and injuring workers below</li> <li>Workers falling down due to non-use of fall restraint systems</li> <li>Rainy or wet conditions</li> <li>Lifting and transporting roof trusses to assembly area</li> <li>Trusses not properly secured.</li> <li>Workers not medical fit.</li> </ul>	Loss time injuries Serious injury/fatalities Property damage	6	6	36	1296	AA	<ul style="list-style-type: none"> <li>Only trained workers to work on heights</li> <li>Ladders to be fastened at all times</li> <li>Safety harnesses must be used at all time while working on heights</li> <li>Correct PPE. to be used</li> <li>No work to commence in wet conditions</li> <li>Properly secure and brace trusses to prevent falling down.</li> <li>Erect 1 truss at a time</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
107	Roof sheeting and cladding	<ul style="list-style-type: none"> <li>Un-authorized access to roof</li> <li>Working on sloped angle with roof sheeting.</li> <li>Bad weather conditions</li> <li>Dropping of roof sheeting</li> <li>Tools and equipment dropping down</li> <li>Unsafe use of portable electric tools</li> <li>Workers not tied to anchor point or lifeline</li> <li>Workers not wearing fall protection harnesses</li> <li>No fall protection plan</li> </ul>	Loss time injuries Severe injuries Property damage Loss in production Fatalities	6	6	36	1296	AA	<ul style="list-style-type: none"> <li>Supervisors to ensure that there is safe access to roof area, by providing safe access ladders or scaffolding</li> <li>All employees to use safety harnesses while working on roof with life lines running parallel with roof</li> <li>No work to be done in bad or wet weather conditions</li> <li>Sheeting to be placed from one side to the other to prevent open spaces</li> <li>All employees to be trained in working at height and induced</li> <li>Correct use of PPE.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
108	Foundations (excavating and pouring)	<ul style="list-style-type: none"> <li>Inclement weather, rain can cause collapsing of excavation.</li> <li>Open excavations</li> <li>Underground services</li> <li>The truck is not road worthy.</li> </ul>	Loss time injuries Severe injuries Property damage Loss in production Fatalities	6	6	36	1296	AA	<ul style="list-style-type: none"> <li>Make sure ground is from a stable formation before workers get into excavation.</li> <li>Always barricade off the open excavations</li> <li>Approved engineer's drawings to identify all underground services</li> <li>Stockpiling of soil to be a safe distance away from excavation edge</li> <li>Formal training on the use of equipment.</li> <li>Licensing of operators.</li> <li>Medical certificates available.</li> <li>Checklist system to be completed before work commences.</li> <li>Make sure the truck is road worthy.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
109	Steel Fixing	<ul style="list-style-type: none"> <li>Injuries to hands, fingers, limbs, feet due to handling of steel</li> <li>Tripping, falling, slipping on steel</li> <li>Steel falling from above can injure workers.</li> <li>Eye injuries due to flying fragments of wires. Workers falling from elevated heights</li> </ul>	Back injuries caused by manual handling Eye injuries from tie wire Trips / falls Falling form height	6	2	12	144	B	<ul style="list-style-type: none"> <li>PPE must include safety boots and goggles</li> <li>Manual handling training may be required</li> <li>Use only trained personnel</li> <li>Cap starter bars to prevent injuries where feasible</li> <li>Use of safety equipment e.g. safety gloves safety shoes</li> <li>hard hats and eye protection</li> <li>No unauthorised persons allowed in area</li> <li>Steel area to be barricaded off.</li> <li>Ensure that workers have proper safety</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
110	Pouring concrete with cement truck.	<ul style="list-style-type: none"> <li>The driver of truck is incompetent to off load cement.</li> <li>The cement truck is not road worthy.</li> </ul>	Serious injury/fatal. Lost time injury. Personnel injury. Property damage.	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Formal training on the use of equipment and operators.</li> <li>Licensing of operators.</li> <li>Medical certificates available. Checklist system to be implemented.</li> <li>Defects logged and repair prior to use.</li> <li>Make sure the cement is not the correct MPA.</li> <li>Make sure the cement truck is not bump against the load off area.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
111	Pouring concrete with cement pump.	<ul style="list-style-type: none"> <li>The driver of cement pump is competent to off load cement.</li> <li>The cement pump is road worthy.</li> <li>The cement pump jib is not bump against off load area.</li> <li>The cement is not the correct MPA.</li> </ul>	Serious injury/Fatal. Lost time injury. Personnel injury. Property damage.	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Formal training on the use of equipment operators.</li> <li>Licensing of operators.</li> <li>Medical certificates available. Checklist system to be implemented.</li> <li>Defects logged and repair prior to use.</li> <li>Make sure the cement pump is not bump against the load off area.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
112	Cutting Kerbs	<ul style="list-style-type: none"> <li>Unsafe machinery</li> <li>Lack of knowledge on safe work procedure</li> <li>Damage to property and injury to employees</li> <li>Unexpected disruption in work</li> </ul>	Injury, cuts, bruises, and amputation	6	2	12	144	B	<ul style="list-style-type: none"> <li>Only trained operators to use saw and change blades.</li> <li>Personal Protective Equipment must be worn. Gloves, goggles, dust mask and hearing protection.</li> <li>People to be kept away from the work area. Work to cease if people have to pass.</li> <li>Sparks etc. to be directed away from people and any flammable material.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
113	Laying of storm water and sewer lines	<ul style="list-style-type: none"> <li>Inclement weather, rain can cause collapsing of excavation.</li> <li>Shoring/battering is not done in deep excavations.</li> <li>Training of employees in excavation safe work procedures.</li> <li>Open excavations Underground services Confined space</li> <li>No safe access or egress</li> </ul>	Loss time injuries Severe injuries Property damage Loss in production Fatalities Damage to existing services could cause financial claims	6	6	36	1296	AA	<ul style="list-style-type: none"> <li>Make sure all workers are trained to work in deep excavations. Use the correct material to do shoring.</li> <li>Make sure shoring/battering is done in deep excavations.</li> <li>Make sure ground is from a stable formation before workers get into excavation.</li> <li>Formal training on the use of equipment.</li> <li>Ensure there is safe access/egress at least every 12 meters</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
114	Use of explosive actuated fasting devices	<ul style="list-style-type: none"> <li>Pointing tools carelessly in any direction</li> <li>Employees not trained in the use of explosive powered tools</li> <li>Machines not cleaned or oiled</li> <li>Miss fires</li> <li>Unsafe disposal of empty cartridges</li> </ul>	Serious injury. Lost time injuries Property damage	6	2	12	144	B	<ul style="list-style-type: none"> <li>Competent workers to be trained</li> <li>Daily checklists to be done</li> <li>Correct PPE. must be used at all times</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
115	Firefighting and prevention	<ul style="list-style-type: none"> <li>Fire can occur</li> <li>Fire alarm not functional, therefore people not hearing the sound of alarm</li> <li>Non availability of fire equipment</li> <li>Untrained personnel using wrong type of equipment or extinguishers to distinguish fire</li> </ul>	Property damage Serious injuries Fatality	6	3	18	324	AA	<ul style="list-style-type: none"> <li>Fire escape routes to be determined and clearly marked</li> <li>Formal training on the emergency evacuation plan and to be reviewed.</li> <li>Monthly checklist of all fire equipment</li> <li>Formal training on basic firefighting</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
116	Demolition work	<ul style="list-style-type: none"> <li>Demolishing the wrong structure Substandard/dangerous equipment</li> <li>Exposure to dust, noise &amp; vibration</li> <li>Not wearing correct PPE. Rubble overloading floors</li> <li>Hidden services (electrical, water)</li> <li>Possible collapsing of structures</li> </ul>	Damage to equipment plant Serious injuries/fatality. Property damage Lost time injuries.	3	3	9	81	B	<ul style="list-style-type: none"> <li>Correct drawings and permits need to be obtained</li> <li>Adjacent property, building or part of building to be demolished will be surveyed and a report, in writing, prepared as to the findings.</li> <li>All equipment and tools in good working order</li> <li>Only trained workers to perform work of this nature</li> <li>Rubble to be removed on a regular basis</li> <li>All services to be disconnected.</li> <li>Demarcate demolition area and display warning signage. Temporary supports to be installed according to engineer's drawings.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
117	Breaking concrete slab	<ul style="list-style-type: none"> <li>Employees exposed to dust and noise</li> <li>Unsafe use of power tools (jack hammer).</li> <li>Workers not using the applicable PPE.</li> </ul>	Loss time injuries Serious injuries Property damage	6	2	12	144	B	<ul style="list-style-type: none"> <li>Always use the correct PPE. (respirators, eye protection)</li> <li>Only trained and competent people to work with power tools</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7

No	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
118	Trestle's	<ul style="list-style-type: none"> <li>Incorrect assembly/poor condition</li> </ul>	Collapse with multiple injuries and damage to property	6	2	12	144	B	<ul style="list-style-type: none"> <li>Job specific training, regular inspections, Induction training and safety talks and planning and supervision</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
		<ul style="list-style-type: none"> <li>Unauthorised use</li> </ul>	Multiple injuries	6	2	12	144	B	<ul style="list-style-type: none"> <li>Induction training and safety talks and planning and supervision, signage</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
		<ul style="list-style-type: none"> <li>Overloading</li> </ul>	Collapse with multiple injuries and damage to property	6	2	12	144	B	<ul style="list-style-type: none"> <li>Job specific training, Induction training and safety talks and planning and supervision</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
119	Brick / Tile Cutting Machine	<ul style="list-style-type: none"> <li>Unsafe machinery</li> <li>Lack of knowledge on safe work procedure</li> </ul>	Injury from contact with blade Damage to property and injury to employees	6	1	6	36	C	<ul style="list-style-type: none"> <li>Use only trained employees to operate machinery</li> <li>Have all machinery fitted with emergency stop buttons</li> <li>Provide and ensure usage of proper PPE</li> <li>Inspect machinery regularly</li> <li>Keep records of inspections on machinery</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
120	Portable ladders.	<ul style="list-style-type: none"> <li>Incorrect use.</li> <li>Unsafe cracked/painted wooden ladders.</li> <li>Aluminium ladders used in the vicinity of electrical cables.</li> <li>Aluminium ladders without rubberising.</li> </ul>	Serious injury. Steps damage. Lost time injury. Property damage.	6	2	12	144	B	<ul style="list-style-type: none"> <li>Ensure that ladder is in good condition.</li> <li>All ladders on register and inspected monthly.</li> <li>Wooden ladders not be painted.</li> <li>All ladders to be erected on level ground.</li> <li>Never stand on top of ladder.</li> <li>Man power support when using ladders.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
121	Transporting people.	<ul style="list-style-type: none"> <li>Road worthy vehicle to be used.</li> <li>Vehicle used for transporting people not properly equipped with necessary safety requirements.</li> <li>Workers not seated.</li> </ul>	Injuries to workers Lost time due to injury. Property damage.	6	2	12	144	B	<ul style="list-style-type: none"> <li>Ensure that where people are transported together with material and tools that vehicle is equipped as per road safety act requirements.</li> <li>Ensure employees are properly seated.</li> <li>LDV's used for transporting people must comply with standard regulations.</li> <li>No standing is allowed.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
122	Exit/Entry into the Public Roads.	<ul style="list-style-type: none"> <li>Heavy vehicles entering high traffic areas</li> <li>No construction traffic signs posted</li> <li>No flagman</li> </ul>	Motor vehicle collision. Fatalities Loss time injuries Severe injuries Property damage Loss in production.	6	6	36	1296	AA	<ul style="list-style-type: none"> <li>Driver to be trained, certified and have a valid driver's license</li> <li>permitted to use a vehicle.</li> <li>Traffic management plan must be developed.</li> <li>Flagman must be posted and correct signs posted.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
123	Construction work creating Dust	<ul style="list-style-type: none"> <li>Exposure to dust</li> </ul>	Breathing in dust can cause long term health problems. Eye damage. Property damage.	6	1	6	36	C	<ul style="list-style-type: none"> <li>Wear respiratory protection</li> <li>Dampen down and minimise dust where possible</li> <li>Make use of environmentally friendly methods to minimize dust kick-up, use bale straw and spread over area to prevent wind kick-up</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
124	Construction equipment creating excessive noise	<ul style="list-style-type: none"> <li>Exposure to Noise</li> </ul>	Noise can damage hearing permanently	6	2	12	144	B	<ul style="list-style-type: none"> <li>Wear hearing protection</li> <li>Have machinery tested to establish the exposure to noise levels so that proper protection can be issued</li> <li>Induct employees on hearing loss before they are exposed to high levels of noise</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
125	Construction equipment creating vibration	<ul style="list-style-type: none"> <li>Exposure to Vibration</li> </ul>	Ergonomic injury to employees	6	2	12	144	B	<ul style="list-style-type: none"> <li>Medical surveillance.</li> <li>Restricting exposure times</li> <li>Employees exposed to vibration must receive induction on using their PPE</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
126	Working in built up or residential areas	<ul style="list-style-type: none"> <li>Adjacent Land Use</li> <li>Boundary and access control/public liability exposure.</li> <li>Increased foot traffic across or next to site</li> <li>Children playing on site</li> <li>Members of public entering site</li> </ul>	Members of public getting injured. Loss of property Civil claims against contractor	6	2	12	144	B	<ul style="list-style-type: none"> <li>Proper segregation of construction works from other land users</li> <li>Signage indicating dangers of entering site</li> <li>The construction site must be suitably and sufficiently fenced off</li> <li>Provide a controlled access point to prevent the unauthorised entry of persons</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
127	Fall protection	<ul style="list-style-type: none"> <li>No site and task specific fall protection plan available for the work at hand.</li> <li>Employees not trained on the fall protection plan.</li> <li>Fall protection plan not compiled and approved by a competent and approved fall protection planner.</li> <li>Fall protection plan not implemented and maintained throughout project.</li> </ul>	<ul style="list-style-type: none"> <li>Fatality</li> <li>Multiple Injuries – i.e. Cuts / Lacerations / Bruises / Fractures / Foreign / Objects / Sprains</li> <li>Legal Liability</li> <li>Prosecution</li> </ul>	3	2	7	42	B	<ul style="list-style-type: none"> <li>Competent fall protection planner to be appointed and must compile and sign off the fall protection plan.</li> <li>Fall protection plan to address all site-specific conditions.</li> <li>Fall protection plan to be implemented before height work can commence.</li> <li>Fall protection plan to be updated throughout the project should the need arise for scope changes.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / CR 10.1.a / CR 10.1.b.c



NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
128	Structures	<ul style="list-style-type: none"> <li>No structure inspections being done to prevent any part of the structure from being overloaded or becoming unstable.</li> <li>The structure information not being made available on site to ensure the designs are being complied with.</li> <li>Structure records and maintenance not done by the owner.</li> <li>Structure not inspected as legislated in the regulations.</li> <li>Bad Housekeeping</li> <li>Excess materials</li> <li>Haphazard Staging</li> </ul>	<ul style="list-style-type: none"> <li>Multiple injuries: <ul style="list-style-type: none"> <li>Cuts</li> <li>Lacerations</li> <li>Bruises</li> <li>Fractures</li> <li>Burns</li> <li>Foreign Objects</li> <li>Sprains</li> </ul> </li> <li>Tripping &amp; falling</li> <li>Equipment damage</li> </ul>	3	2	7	42	B	<ul style="list-style-type: none"> <li>Strict adherence to allowable loads must be maintained.</li> <li>Structure designs to be available on site if any uncertainty arises or information is required.</li> <li>The client to ensure that structure inspections are conducted as legislated.</li> <li>Structure maintenance records to be kept.</li> <li>Correct PPE to be used:</li> <li>Overall / safety boots / gloves / eye protection / etc.</li> <li>Good stacking &amp; storage practices to be practiced</li> <li>All areas below where work is being done at an elevated level to be barricaded to restrict entry by any person.</li> <li>Safety signs indicating workers above – falling objects to be displayed</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / CR 6
129	Temporary Works <ul style="list-style-type: none"> <li>Offloading &amp; storage of temporary works material.</li> <li>Erection &amp; dismantling of temporary works.</li> <li>General working operations on temporary works.</li> </ul>	<ul style="list-style-type: none"> <li>Temporary works not designed by appointed Engineer.</li> <li>Temporary works not being signed off by appointed Engineer prior to using temporary works.</li> <li>Temporary works not being inspected on a daily basis by competent, appointed person.</li> <li>Temporary works erected by incompetent employees / erectors.</li> <li>Temporary work erectors not trained on the specific system being used on site.</li> <li>Temporary work drawings not signed off by appointed, competent Engineer.</li> <li>Contractor not working from latest revision drawing.</li> <li>Temporary works not adequately erected, supported, braced and maintained by competent person.</li> <li>Temporary work structure not erected according to the design.</li> <li>- Temporary work structure stripped before concrete acquired sufficient strength. - Temporary work structure erected on uneven floor surface. - No safe access for employees onto temporary work structure. - No solid edge barricading installed around temporary work decks. - Employees other than the erectors allowed onto temporary work deck while there are openings in deck.</li> </ul>	<ul style="list-style-type: none"> <li>Employees slipping on temporary work decks due to application of release agents.</li> <li>Multiple injuries: <ul style="list-style-type: none"> <li>Cuts</li> <li>Lacerations</li> <li>Bruises</li> <li>Fractures</li> <li>Burns</li> <li>Foreign Objects</li> <li>Sprains</li> </ul> </li> <li>Tripping &amp; falling</li> </ul>	3	2	7	42	C	<ul style="list-style-type: none"> <li>Must be designed and inspected by a competent appointed person as per the specification requirements.</li> <li>Must be inspected daily.</li> <li>Must have detailed designs available upon request.</li> <li>Must be done by trained employees that have been found competent in erection of the specific system.</li> <li>Unauthorised" access prohibited.</li> <li>Responsible 8.1 to address ergonomic factors with workforce covering –working in restricted spaces, incorrect handling practise and incorrect posture during work activity</li> <li>Only trained &amp; fit to work employees to perform manual work activities.</li> <li>Supervisor to ensure that correct seizing of materials / equipment is provided for assembly.</li> <li>No sub-standard equipment to be utilised.</li> <li>Any defects to be reported to the supervisor for repairs or replacement</li> <li>Correct tools &amp; equipment to be used for assembly.</li> <li>Supervisor to ensure that no substandard work practices are performed.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / CR 12.1 / CR 12.2 / CR12.3. f
130	Scaffolding <ul style="list-style-type: none"> <li>Erecting &amp; dismantling</li> <li>Access scaffold towers</li> <li>Working operations on scaffolding</li> <li>Specialized scaffolding</li> </ul>	<ul style="list-style-type: none"> <li>Screens / aprons not installed on scaffolding adjacent to public areas.</li> <li>Scaffolding not being erected in accordance to SANS 10085 standards.</li> <li>Trained and appointed scaffolding team not available on site.</li> <li>Employees working at heights not certified to work at heights in accordance with the SAQA requirements for working at heights training.</li> <li>No rescue plan in place for employees working at heights.</li> <li>Scaffolding erected on uneven ground level.</li> <li>No sole boards installed underneath scaffold base jacks when erected on soil surface.</li> <li>Scaffolding not inspected daily by competent, appointed Scaffold inspector.</li> <li>No sign on scaffolding indicating safe / unsafe for use.</li> <li>No design available for special scaffolding.</li> <li>Area below scaffolding not barricaded off when being dismantled.</li> <li>Materials not being lowered to ground level correctly while scaffolding are being dismantled.</li> <li>Scaffolding not sufficiently tied into existing building / structure when required.</li> <li>Collapse of scaffold stack.</li> </ul>	<ul style="list-style-type: none"> <li>Multiple Injuries - i.e. Cuts / Lacerations / Bruises / Fractures / Foreign Objects / Sprains</li> <li>Fatality</li> <li>Equipment damage</li> <li>Legal liability</li> </ul>	3	2	7	42	B	<ul style="list-style-type: none"> <li>Employees not allowed to work at heights who is not medical fit and not in possession of a valid medical certificate of fitness.</li> <li>All equipment that is going to be used with their registers must be checked by the site's person responsible and signed off before work commences. Construction Regulation 16</li> <li>Where any certification is required, this will form part of the register to ensure failure of equipment is kept to a minimum.</li> <li>Responsible 16 (1) shall ensure that employees are able to work at heights and be able to partake in erection of scaffolding practice's and shall implement training for the working at heights and the correct use of PPE and. emergency evacuation.</li> <li>Responsible 16 (1) shall ensure that work instructions from the client are adhered to.</li> <li>Responsible 16 (1) shall ensure Medical Surveillance systems are in place and adhered to.</li> <li>Responsible 16(1) is to ensure that there is a Task Analysis and Pre-job placement program in place that personnel are certified competent for the tasks they are to perform and are legally appointed</li> <li>Certificate of competency shall be kept on record for all labour.</li> <li>Responsible 16 (1) and 8(1) shall ensure that no job commences before all the necessary permits are obtained and clearance to work has been given by the responsible person of the section where the work is to be performed.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / CR 16.1.a / CR 16.c

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
									<ul style="list-style-type: none"> <li>All employees shall be explained of the hazards and sign that they are aware thereof.</li> <li>Stacking supervisor shall ensure that scaffolding stacked are properly, correctly and securely stacked to prevent potential collapses – interlocked.</li> </ul>	
131	Scaffolding (con't)								<ul style="list-style-type: none"> <li>Scaffold supervisor shall ensure that scaffold is only erected once a requisition form from the construction manager or project manager has been signed.</li> <li>Scaffold supervisor shall ensure that scaffold is only erected after supervisor or construction manager instructs him of exactly what is required and of the risks pertaining to the job.</li> <li>Scaffold supervisor shall ensure only competent scaffold erectors shall partake in the erecting / fixing of the scaffolding.</li> <li>Scaffold supervisor shall ensure that a sign saying "scaffold erection in progress" is erected as soon as erection commences, that the Scaff - tag system is implemented, and that barricading is erected.</li> <li>Scaffold supervisor and safety officer shall ensure that medical surveillance has been done so as to ensure that personnel that are to work at height do not suffer from vertigo.</li> <li>Must be inspected daily when in use.</li> <li>Scaffold safety supervisor shall ensure periodic breaks shall be taken in extreme heat – intake of 600ml liquids.</li> <li>Correct PPE to be worn at all times: Boots, overalls, gloves, eye protection, hard hat, respiratory, hearing protection, safety harnesses (as required)</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
132	Mobile elevated working platform operations	<ul style="list-style-type: none"> <li>Operator not conducting daily pre-inspection before operating MEWP.</li> <li>No valid load test available.</li> <li>Operator not medically fit to operate MEWP. - Operator falling from machine basket during work operations.</li> <li>Operator trapped between part of the basket and a fixed structure, e.g. when manoeuvring in confined overhead areas.</li> <li>Operator operating machine on uneven surfaces and possibility of machine overturning.</li> <li>The vehicle may collide with pedestrians, overhead cables or nearby vehicles.</li> <li>Operator using MEWP in close proximity to overhead power lines.</li> <li>Materials not properly secured in basket of machine, falling from elevated positions.</li> <li>Working platform not kept tidy, tripping hazards.</li> <li>Outriggers not extended and chocked before raising the platform.</li> <li>Work platform not fitted with effective guard rails and toe boards.</li> <li>Employees not wearing a harness with a short work restraint lanyard</li> <li>Working in high winds can tilt platforms and make them unstable.</li> <li>Materials being lifted not properly secured.</li> <li>Gate of the platform not closed while in use.</li> </ul>	<ul style="list-style-type: none"> <li>Multiple Injuries - i.e. Cuts / Lacerations / Bruises / Fractures / Foreign Objects / Sprains</li> <li>Fatality</li> <li>Equipment damage</li> <li>Legal liability</li> </ul>	2	2	7	28	C	<ul style="list-style-type: none"> <li>Must be operated by appointed trained and medically fit operators.</li> <li>Must be inspected daily before use</li> <li>Must be parked / stored on site only at secured areas.</li> <li>May not work near excavation edges.</li> <li>Must have safe means of access.</li> <li>Fall arrest equipment to be worn and used in line with the machine design.</li> <li>Supervisor to monitor work activities.</li> <li>Any defective equipment to be removed immediately.</li> <li>Correct PPE to be worn at all times: Boots, overalls, gloves, eye protection, hard hat, respiratory, hearing protection, safety harnesses (as required)</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / DMR 18.11
133	Flame cutting and welding	<ul style="list-style-type: none"> <li>Effect the structural integrity of the structure if welding is not done correctly.</li> <li>CO2 welding not being protected from weather conditions when doing CO2 welding on site in order to prevent wind from blowing the CO2 away from the welding point.</li> <li>No flash back arrestors installed on gas welding equipment. - Gas welding &amp; cutting: o Fire caused by heat, sparks, molten metal, or direct contact with the flame.</li> <li>Explosion when cutting up or repairing tanks or drums which contain or may have contained flammable materials.</li> <li>Fire / explosion caused by gas leaks, backfires and flashbacks.</li> </ul>	<ul style="list-style-type: none"> <li>Fumes created during flame cutting.</li> <li>Fire / burns resulting from misuse of oxygen.</li> <li>Burns from contact with the flame or hot metal.</li> <li>Crushing or impact injuries when handling and transporting cylinders.</li> </ul>	3	2	6	36	C	<ul style="list-style-type: none"> <li>May only be used by trained and appointed employees.</li> <li>Must be stored in line with the manufacturer's specifications.</li> <li>Working areas to be clearly marked via signage.</li> <li>Have sufficient firefighting equipment available at all times.</li> <li>Must have the required permits in place.</li> <li>When performing welding work, correct PPE to be available &amp; used:               <ul style="list-style-type: none"> <li>Welding face shield (full)</li> <li>Welding spats</li> </ul> </li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
		<ul style="list-style-type: none"> <li>Employees not wearing the correct personal protective equipment.</li> <li>Fire extinguisher not available in nearby vicinity.</li> </ul>							<ul style="list-style-type: none"> <li>Welding gloves</li> <li>Welding apron</li> <li>Safety boots</li> <li>Welding glare shields</li> <li>Fire extinguisher positioned</li> </ul>	
134	Electrical installations	<ul style="list-style-type: none"> <li>Unfamiliarity with the site and/or uncertainty about the job.</li> <li>Employees doing the electrical installations not competent.</li> <li>Changes to wiring / installation not being reflected in drawings.</li> <li>Inadequate light to work safely.</li> <li>Inadequate lock out procedures / lock out procedures not implemented correctly.</li> <li>Cramped working conditions, including cable trenches and cable pits.</li> <li>No COC issued for permanent / temporary electrical installations.</li> <li>Temporary electrical installations not inspected weekly by competent, appointed person.</li> <li>Contractor conducting electrical installation work not register with the Department of Labour as an electrician.</li> <li>Cable trays should not be used by any person as a "scaffold" support</li> </ul>	<ul style="list-style-type: none"> <li>Faulty electrical installations or equipment may result in electrocution, burns or other injuries to employees.</li> <li>Electrical shock causing injury or death of employee.</li> <li>Fire resulting from an electrical fault.</li> <li>Working at heights and danger of falling objects.</li> <li>Excessive worker fatigue</li> </ul>	3	2	8	54	A	<ul style="list-style-type: none"> <li>Only competent electricians permitted to perform work / installations &amp; connections</li> <li>Employees must be provided with the PPE as determined in the task risk assessment</li> <li>Must be done under constant supervision.</li> <li>Must be done in line with engineer requirements.</li> <li>Must be done in line with task risk assessment to ensure the safety of employees.</li> <li>Ensure hot work permit is obtained prior to commencing work (where applicable)</li> <li>Remove any flammable / combustible materials where possible</li> <li>Unauthorised persons not allowed within the work area</li> <li>All equipment that is going to be used with their registers must be checked by the site's responsible person and signed off before work commences.</li> <li>DSTI's implemented, to consider emergency situations arising &amp; the need to evacuate workplaces.</li> <li>warning signage</li> <li>Barricade work area</li> <li>Positioning of fire watch (where applicable)</li> <li>Supervisor to ensure work area is well ventilation – mechanical</li> <li>"Hazardous" waste to be removed &amp; disposed of as per</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / CR 24.c & e
135	Occupational Health – Workplace environmental stresses	<ul style="list-style-type: none"> <li>Dust exposure</li> <li>Electrical Energy Sources exposure</li> <li>Mobile Plant &amp; Vehicle Movement</li> <li>High Noise levels</li> <li>Hazardous Chemical Substances</li> <li>Vibration</li> <li>Heat / Cold Environs</li> </ul>	<ul style="list-style-type: none"> <li>Inhalation of dust particulates</li> <li>Allergic reactions</li> <li>Occupational Asthma</li> <li>Dermatitis</li> <li>Legal Liability</li> <li>Foreign Objects</li> <li>Electrocution</li> <li>Burns</li> <li>Fatality</li> <li>MVA</li> <li>Multiple Injuries               <ul style="list-style-type: none"> <li>Cuts</li> <li>Lacerations</li> <li>Bruises</li> <li>Fractures</li> <li>Sprains</li> </ul> </li> <li>Material/Equipment Damage</li> <li>Noise induced hearing loss</li> <li>Reactive – fire or explosion</li> <li>Musculoskeletal related injury</li> <li>Biological related medical conditions - "White Finger"</li> </ul>	3	2	7	42	C	<ul style="list-style-type: none"> <li>Pre-employment medical to conduct.</li> <li>Proper PPE use training.</li> <li>DSTI implementation.</li> <li>Supervisor to perform regular awareness safety talks.</li> <li>Effective supervision.</li> <li>Standard operating procedures &amp; WI to follow by all employees.</li> <li>Dust minimisation programme to implement</li> <li>Plant &amp; equipment maintenance programme to initiate.</li> <li>Competent persons to perform tasks.</li> <li>Proper anti-static and non-conductive use and proper PPE use training.</li> <li>Non-conductive tools and equipment.</li> <li>Tools &amp; equipment inspected and on register.</li> <li>Supervisor to perform regular awareness safety talks.</li> <li>Effective supervision.</li> <li>Standard operating procedures &amp; WI to follow by all employees.</li> <li>Lockout protocols to enforce.</li> <li>Competent persons to perform tasks.</li> <li>Proper anti-static and non-conductive use and proper PPE use training.</li> <li>Non-conductive tools and equipment.</li> <li>H&amp;S induction for new employees &amp; sub-contractors.</li> <li>Supervisor to perform regular HCS awareness safety talks.</li> <li>Compliance to HCS storage, handling, control &amp; disposal procedures.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7
136.	Drainage	<ul style="list-style-type: none"> <li>Unstable surface.</li> <li>Inadequate tools &amp; equipment.</li> <li>Inadequate or Ineffective Supervision.</li> <li>Inadequate tools &amp; equipment.</li> <li>Tripping or falling - rubble not removed regularly it will cause tripping hazards.</li> <li>Inadequate trained employees</li> <li>Moving plant equipment &amp; vehicles.</li> </ul>	<ul style="list-style-type: none"> <li>MVA</li> <li>Judgement error leading to unsafe work practises</li> <li>Inoperability &amp; Down time</li> <li>Injuries - i.e. Cuts / Lacerations / Bruises / Fractures / Foreign Objects / Sprains</li> </ul>	2	2	6	24	C	<ul style="list-style-type: none"> <li>Employees to be trained in manual handling techniques.</li> <li>Works supervisor to monitor and manage work progress.</li> <li>Vehicular and pedestrian traffic routes must be separated.</li> <li>Provide and maintain the necessary temporary road signs, cones, and barriers during installation of traffic signal vehicle detection cables in accordance with SARTSM Vol2 Chap 13.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
			<ul style="list-style-type: none"> <li>Judgement error leading to unsafe work practises</li> <li>Equipment damage</li> </ul>						<ul style="list-style-type: none"> <li>Use cones &amp; delineators to direct traffic to inform traffic of construction.</li> <li>Flagman to be posted at strategic road.</li> <li>Only hand tools and equipment inspected as per register to be used.</li> <li>Only trained staff to perform tasks.</li> <li>Ergonomic factors to consider.</li> <li>Defective tools and equipment to be reported and removed from site</li> <li>Speed limit to be enforced by the supervisor.</li> <li>DSTI's implemented, to consider other contractors in vicinity and potential. damage to materials / equipment &amp; Moving vehicles, mobile plant &amp; Equipment.</li> <li>Sufficient quantities of liquids (600ml / hr) to be made available and taken in.</li> <li>Good housekeeping to be practiced at all times.</li> <li>Correct PPE to be worn at all times: Boots, overalls, gloves, eye protection, hard hat, respiratory, hearing protection (as required)</li> </ul>	
137	Housekeeping	<ul style="list-style-type: none"> <li>Housekeeping not being maintained daily.</li> <li>Scrap, waste and debris not removed from site at appropriate intervals.</li> <li>Construction areas near build up areas not sufficiently hoarded.</li> <li>Housekeeping conditions not managed by the site management team.</li> </ul>	<ul style="list-style-type: none"> <li>Tripping or falling <ul style="list-style-type: none"> <li>Bad Housekeeping</li> <li>Excess materials</li> <li>Haphazard Staging</li> <li>People could be exposed to injury due to failure of equipment</li> </ul> </li> <li>Ergonomic Factors <ul style="list-style-type: none"> <li>Restricted space</li> <li>Incorrect handling</li> <li>Incorrect Posture</li> </ul> </li> </ul>	3	2	4	24	C	<ul style="list-style-type: none"> <li>Housekeeping conditions to be maintained daily.</li> <li>Hoarding must be maintained daily and must be kept up to standard.</li> <li>Site management to be informed of substandard housekeeping conditions to ensure that the housekeeping can be implemented as required.</li> <li>Employees must be provided with the PPE as determined in the task risk assessment.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
138	Excavation of the pit: Mechanical and Manual excavation	<ul style="list-style-type: none"> <li>Collapse of the surface face, flooding, plant falling in.</li> </ul>	Collapse of the surface face, flooding, plant falling in.	3	2	7	42	C	<ul style="list-style-type: none"> <li>Face will be shored where required. Sump excavation to allow pumping. Area around pit must be demarcated and barricaded. Good housekeeping. Using the correct PPE.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
139	Overhead electrical cables	<ul style="list-style-type: none"> <li>Electrocution</li> </ul>	Crane or plant come into contact with the electrical cables	3	2	7	42	C	<ul style="list-style-type: none"> <li>Only competent operators used. Spotters must be used when working close to the power lines. Areas where there are overhead power lines must be identified and the necessary safety procedure taken when working in this area. Training must be given to those personnel who will be working near the power lines.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
140	Working in traffic areas	<ul style="list-style-type: none"> <li>Moving vehicles</li> </ul>	Struck-by injuries, fatalities	3	2	7	42	C	<ul style="list-style-type: none"> <li>Traffic management plan must include these risks and mitigating controls</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
141	Transporting people.	<ul style="list-style-type: none"> <li>Road worthy vehicle to be used. Vehicle used for transporting people not properly equipped with necessary safety requirements. Workers not seated.</li> </ul>	Injuries to workers Lost time due to injury. Property damage.	3	2	7	42	C	<ul style="list-style-type: none"> <li>Ensure that where people are transported together with material and tools that vehicle is equipped as per road safety act requirements. Ensure employees are properly seated. LDV's used for transporting people must comply with standard regulations. No standing is allowed.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
142	Exit/Entry into the Public Roads.	<ul style="list-style-type: none"> <li>Heavy vehicles entering high traffic areas</li> <li>No construction traffic signs posted</li> <li>No flagman</li> </ul>	Motor vehicle collision. Fatalities Loss time injuries Severe injuries Property damage Loss in production.	3	2	7	42	C	<ul style="list-style-type: none"> <li>Driver to be trained, certified and have a valid driver's license permitted to use a vehicle. Traffic management plan must be developed. Flagman must be posted and correct signs posted.</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
143	Road construction, and closures	<ul style="list-style-type: none"> <li>Adjacent Land Use Boundary and access control/public liability exposure. Increased foot traffic across or next to site Children playing on site Members of public entering site</li> </ul>	Members of public getting injured. Loss of property Civil claims against contractor	3	2	7	42	C	<ul style="list-style-type: none"> <li>Proper segregation of construction works from other land users Signage indicating dangers of entering site The construction site must be suitably and sufficiently fenced off Provide a controlled access point to prevent the unauthorised entry of persons</li> </ul>	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i



No	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
144	Load & Unload equipment by Hand	▪ Back injuries and hand		3	2	7	42	B	▪	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
145	Vibration (General Machinery)	▪ May result in kidney complications May result in kidney complications May result in kidney complications		3	2	7	42	B	▪	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
146	Placing gantry rails	▪ Crane Truck	Rails could be dropped while being put into position. Injury or damage to equipment	3	2	7	42	B	▪ Competent operator is work the crane. Vehicle must pass a pre-inspection by the supervisor before being used.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Manual lifting	Rails could be dropped while being put into position. Injury or damage to equipment	3	2	7	42	C	▪ Manual lifting: Personnel to be trained on the correct lifting techniques. Correct lifting gear and PPE must be used.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Erection of gantry	Gantry could move or fall. Injury to personnel and/ or damage to property.	C	6	18	326	AA	▪ Using competent operators. Equipment must be inspected and serviced before used. Loads must be correctly lifted - No loads over capacity and all the correct safety measured used.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Transport of material	Accidents on the shared access routes. Vehicles causing dust and damaging the roads.	3	2	7	42	C	▪ Trucks must be kept mechanically sound and maintained. Good housekeeping.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
147	Set Up Jacking Equipment	▪ Sliders in position	Loads move or fall causing injury to personnel and / or damage to property.	3	2	7	42	B	▪ Gantry load tested. Lifting equipment must be inspected and cleared before it is used. Use of the correct PPE.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Formwork for Trust Wall	Loads move or fall causing injury to personnel and / or damage to property.	3	2	7	42	B	▪ Gantry load tested. Lifting equipment must be inspected and cleared before it is used. Use of the correct PPE.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Concrete Placement	Loads could move or fall off the hoist or skip: injury or damage to property. Concrete is alkaline and is harmful to the skin.	3	2	7	42	C	▪ Correct PPE. Gantry load tested. Lifting equipment must be fir for the purpose. Formwork must be cleared before concrete can be poured.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Overhead electrical cables	Electrocution: Crane or plant come into contact with the electrical cables.	3	6	18	326	AA	▪ Only competent operators used. Spotters must be used when working close to the power lines. Areas where there are overhead power lines must be identified and the necessary safety procedure taken when working in this area. Training must be given to those personnel who will be working near the power lines.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Placing equipment into the pit.	Loads could move or fall of jacks or shields causing harm to personnel and / or damage to property.	3	2	7	42	C	▪ Gantry load tested. Lifting equipment must be inspected and cleared before it is used. Use of the correct PPE. No persons to be under the loads.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Placing equipment at the pit.	Power pack or compressor could fall and cause injury to personnel and/ or damage to property. Hazardous liquids can leak from the power pack or compressor causing harm to persons, property, and the environment.	3	2	7	42	B	▪ Truck mechanically sound and maintained. Competent operators. Lifting equipment must be cleared by the supervisor before use. Drip trays under static plant. Good housekeeping must be maintained.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Piping and cables	Tripping and falling accidents.	3	6	18	326	AA	▪ Good housekeeping to be maintained.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
			Airlines can whip - harm to persons and/ or property.	3	2	7	42	B	▪ Ensure compressor and accessories are checked and inspected regularly, and faulty equipment replaced.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
			Hydraulic pipes can burst leaking out oil - damage to persons, property, or environment.	3	2	7	42	B	▪ Ensure the hydraulic pipes are checked and inspected regularly, and faulty equipment replaced.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪	Tear on electrical cables exposing the inner core - electrocutions	3	6	18	326	AA	▪ Ensure all electrical equipment is checked and inspected regularly, and faulty equipment replaced.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
148	Pipe Jacking	▪ Moving of materials	Lifting equipment failure: damage to materials, equipment, or harm to personnel	3	2	7	42	B	▪ Truck mechanically sound and maintained. Correct lifting equipment used and inspected to be in good working order.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪	Shared access roads: Traffic accidents, dust / mud.	3	2	7	42	C	▪ Personnel trained on the safe procedures when travelling on the site roads. Watchman positioned where necessary.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪	Spoil on the roads: Accident or incident.	3	6	18	326	AA	▪ Good housekeeping maintained.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Lifting material at the pit	Lifting of pipes, tools, or spoil: Failure of lifting equipment causing the load to fall thereby causing injury to personnel and / or damage to property	3	2	7	42	C	▪ Gantry load tested. Lifting equipment must be inspected to be in good working order before used. No persons under loads at any time.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Overhead electrical cables	Electrocution: Crane or plant come into contact with the electrical cables.	3	6	18	326	AA	▪ Only competent operators used. Spotters must be used when working close to the power lines. Areas where there are overhead power lines must be identified and the necessary safety procedure taken when working in this area. Training must be given to those personnel who will be working near the power lines.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Jacking	Hydraulic pipe or airline comes loose: Harm to personnel and / or damage to property.	3	2	7	42	B	▪ Jacking equipment must be inspected before use.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Stripping Topsoil	Vehicles reversing over equipment and employees. Dirt in eyes and face Noise induced hearing loss from heavy machinery	3	2	7	42	C	▪ Traffic controller. Protective equipment to be used more visible. Protective equipment should be used	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Cement and Concrete Mixing	▪ None Ingestion, inhalation of cement. Contact with skin may cause Dermatitis	3	2	7	42	B	▪ Training in use of correct PPE. Barrier creams	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Excavation by Hand	▪ Heat related illness. Cuts and lacerations. Collapse of underground structure ▪ Complications resulting from repetitive work	3	6	18	326	AA	▪ Training in increased fluid intake. Training in PPE usage. Training in inspection	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Load & Unload equipment by Hand	Back and hand injuries	3	2	7	42	B	▪ Training, communication clear task	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Vibration (General Machinery)	May result in kidney complication	3	2	7	42	C	▪ Training of personnel rest breaks	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Noise (General Machinery)	Noise induced hearing loss	3	2	7	42	B	▪ Training of personnel. Designate noise areas	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i

NO	Task / Condition / Activity	Potential Hazards and Risks Existing	Potential Hazards and Risks Existing	P	F	S	RISK RATING	RISK RANK	Preventative Measures and Controls	Responsible Person
		▪ Awkward Postures	Back injuries, etc. Health complications from unnatural postures Health complications from unnatural postures Health complications from unnatural postures	3	2	7	42	C	▪ Sufficient access to areas. Training. Good working practices	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Heavy Manual handling	Back injuries, etc. Health complications from back or muscle injuries Health complications from back or muscle injuries	3	2	7	42	C	▪ Training in Safe work procedure in lifting equipment. Work in teams if job requires it.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Man/machine Interaction	Loose clothing caught in machines or drill chuck. Limbs trapped or severed at water pumps and or Drill rig pulleys. Serious injury. Bodily parts can be severed or seriously damaged Serious injury.	3	2	7	42	B	▪ Operational boundaries. Training of personnel. Warning mechanisms. Clear communication between workers. Ensure machine guards are adequate	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Loading and off- loading drill rigs from truck	Rig could fall off skids if proper surveillance is not in place. Death and serious injury Death and serious injury	3	6	18	326	AA	▪ Training of personnel. Adequate and correct access. Use correct tools. Always use double line winch technique	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Loosing drill rods when extracting drill run	Wrenches can get caught between hands and drill rig Minor injuries to hands Minor injuries to hands	3	2	7	42	C	▪ Training of personnel, always listen to drill supervisor for instructions	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i
		▪ Extreme Heat Conditions	Workers can lose consciousness and thus cause accidents Sweat can cause slight loss of vision which can cause accidents. Heat Exhaustion Heat stroke Injuries	3	2	7	42	B	▪ If temperature increases over 38 degrees Celsius, all work shall be ceased until temperature subsides. Drink fluids all the time in extreme heat conditions.	Responsible Section 16.2 / CR 8.1 / CR 8.7 / Section 8. i